IDRC PROJECT NETWORKS

(an appraisal of past strategy
and recommendations for the future)

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TABLE OF CONTENTS

I. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

(A) THE EXTENT TO WHICH THE NETWORK APPROACH HAS BEEN USED IN CENTRE-SUPPORTED PROGRAMS

1.1 During the first nine years of IDRC's operations, in the period until December 31st 1979, over 35% of its projects and 43% of its program budget related to activities that were associated with networks. In Agriculture Food and Nutrition Sciences (AFNS) and Social Sciences (SS) Divisions the emphasis on networks was particularly strong with 51% and 52% respectively of these Divisions program budgets being allocated to network projects. If certain projects managed for CIDA are included in the AFNS portfolio the figure for this Division rises to 56%. In contrast to this only 12% of Health Sciences Division (HS) budget has been used for networks. Information Sciences Division (IS) is in an intermediate situation with 42% of its budget allocated to networks, much of this is in some very large networks such as TECHNONET and AGRINTER.

(B) THE VARIOUS APPROACHES TO DEVELOPING NETWORKS EMPLOYED BY CENTRE STAFF

1.2 We have defined an IDRC network as being 'a group of interconnected or inter-related project activities'. Except in Information Sciences Division these networks are usually initiated by the Centre. For the purpose of our work we have examined twelve important networks in some depth (see Table 2 following paragraph 3.13 for a list of these networks and some of their characteristics).

1.3 Although there are a wide range of different types of networks supported by IDRC many of them can, to some extent, be classified as

being either vertically or horizontally integrated. The vertical networks often favoured by Agriculture, Food and Nutrition Sciences Division, involve activities in different countries relating to different types of problems for a specific commodity or cropping system. Horizontal networks, used extensively by Social Sciences Division, examine specific problems in different cultures rather than by different disciplines. This approach may be a reflection on the cultural specific nature of the phenomena that social scientists study, and their need to undertake more comparative case studies to determine the most significant causes of the problem being examined. In contrast to this, a significant part of the agricultural (but not fishery or forestry) research supported by the Centre is related to the well funded International Agricultural Research Centres which form foci to which global, commodity-oriented, vertically integrated networks can readily be linked.

1.4 Irrespective of whether networks are vertically or horizontally integrated they all contain certain common linking mechanisms. Of these the most important is some form of coordinator who may be full or part time, a network team participant, an outside consultant, or a permanent or specifically recruited IDRC employee. Other linkage mechanisms used extensively in IDRC networks are workshops, advisory committees, consultants, training programs and publications. The degree to which these are used varies a great deal.

1.5 Some networks are established for a specific short term task, others are planned as permanent activities. SS networks are often formulated as a result of a project identification meeting and the other 3 Divisions have also used this approach but to a lesser extent.

Other networks have developed in a more 'ad hoc' fashion as a program officer's particular interest in a certain field has resulted in a series of proposals in that field being put to and approved by IDRC. In other instances program officers have actively sought grantees who would do research on a recognized te chnology gap. In most, if not all, IDRC networks the involvement of the staff member in the creation of networks has been paramount and this has given a great deal of individuality to the character of the networks developed. There is, thus, no IDRC network model, but a series of flexible packages which draw on one another's experiences only to a limited degree and then only on an intra-divisional basis. There is, little evidence of contact between Divisions in sharing network philosophies and experiences.

(C) THE EXTENT TO WHICH NETWORKS ENCOMPASS SCIENTISTS & INSTITUTIONS NOT DIRECTLY SUPPORTED BY IDRC

1.6 Most networks encompass at least four or five scientific groups, some are much larger. There appear to be few networks in which less than 15 or 20 individuals are involved, and the number runs to over a hundred in networks such as STPI, AGRINTER, TECHNONET, PLAMIRH and Cassava, each of which represents a significant budgetary activity for IDRC.

1.7 Most scientists involved are from developing countries, there has been only a limited involvement of personnel from developed countries, including Canada. This has resulted from a conscious effort by IDRC to channel most of its funds

to LDC's. However, in a number of networks, developed country consultants and, occasionally, Canadian Institutions have been involved. Indeed, IDRC networks tend to be very open groups and to encompass scientists and institutions in the network's field of activity, whether or not they are the recipients of direct IDRC support. In this context a number of valuable links have been established with other donor agencies.

(D) THE EXTENT TO WHICH LINKS ARE MAINTAINED AFTER CENTRE SUPPORT CEASES

1.8 Whatever their planned duration, the informal and flexible style of most networks appears to have led to the establishment of personal links of an enduring nature. These links may be easier to establish in HS, IS and AFNS networks where scientists tend to remain working in a relatively narrow field for a long period of time, whereas in SS networks the scientists tend to move their research activities across a range of inter-related topics.

1.9 The Team has not been able to quantify the extent to which links are maintained after IDRC support ceases because many of the networks that it examined are either on-going or very recently terminated. It believes that it is premature to try to answer this question at the present time but it would be valuable to do so in about three years.

(E) THE VALUE OF THE NETWORK APPROACH

1.10 A number of advantages and disadvantages of the network approach have been identified. The main disadvantages are the cost of coordination and the fact that the heavy emphasis

on networks may limit funds available for non network activities However, networks appear to play an important role in linking LDC scientists working in common areas or on common problems and they help to bring enough input to new and undermanned research areas to offer the chance of real progress being made. The Team felt that networks were a valuable component of IDRC's program.

1.11 We do not believe that it would be desirable to allocate a set portion of the IDRC budget to network activities, both discreet projects and networks have a role to play. Networks are so individual in design that no model or formula is practical, nor is one desirable in terms of IDRC's quest for flexibility.

1.12 Currently networks are used to strengthen research institutions, to develop human resources, to produce research results and to provide information for policy makers. The relative importance of each role varies considerably in different networks but it does not appear that networks have any unique advantages over individual projects for achieving any one of the four objectives listed. Once again it is a question of the individuality of each network.

1.13 However, in the least developed countries it is often difficult to identify institutions to which network projects can be attached. In such circumstances IDRC's role in institutional development is of particular importance. Support for this role entails a long term commitment, involves developing financial and management staff as well as scientists and

means a limited research output in the early years. IDRC has never actively pursued its mandate to build up LDC institutions although its Parliamentary Act authorises it to do so. In view of the number of other agencies now supporting research in the LDC's it may be appropriate to re-assess this issue. The Team notes, however, that some IDRC Governors are reluctant to endorse Phase 2 and 3 projects which imply a measure of institution building activity.

1.14 The Team has the impression that some IDRC staff are hesitant to involve weaker countries in network activities because projects in such countries have a greater element of risk. Their research may be poorly carried out, they are frequently chaotic administratively and they often delay the progress in the stronger network teams. In terms of cost-effectiveness, activities in the least developed countries are, at first glance, not very attractive. But if IDRC only supports the best, the weakest will never get off the ground.

1.15 Part of the answer to this problem lies in the need for IDRC to be more flexible in terms of accepting higher management costs, poorer reporting and even failure to achieve objectives in projects in the most needy countries. IDRC does not appear to openly recognise that many development activities in such countries do fail. Within the Centre failure is regarded as 'bad', but only by failing, understanding why this occurred and trying again is failure ever likely to be transformed into success.

1.16 Network participants usually seem to be in favour of linkage mechanisms such as coordination, workshops and publications.

Strong national groups sometimes feel that a linkage with weaker teams impedes their own progress and, occasionally, the validity of cross continental linkages is questioned. The most important doubt expressed about networks by recipients is to question the effort that goes into the planning, organising and management of a structure that is not designed to be permanent or, at least, long term in nature.

(F) THE ADVANTAGES & DISADVANTAGES OF THE DIFFERENT METHODS USED TO BUILD UP NETWORKS

1.17 The individuality of networks, even when subdivided into vertically and horizontally integrated ones, makes it difficult to offer generalisations about the comparative value of different approaches. In the main the strategies followed appear to be appropriately adapted to Divisional needs. There is, however, a serious lacuna in IDRC in that there is no in-house mechanism for capitalising on the lessons of experience to be drawn from the great variability in the approach to networks. Divisions hoard their own knowledge: problems and errors are buried; a remarkable opportunity for increasing staff competence and building interdivisional links is lost; all because of the absence of any type of in-house dialogue on project methodology and management.

1.8 This weakness is particularly relevant in terms of network planning,especially with respect to whether a network is <u>responsive</u> to requests by recipients or whether it arises from a program <u>suggested</u> by IDRC staff. This makes it difficult to pass

judgement on the relative merits of 'suggestive' versus 'responsive' type networks. It appears that the former entail a higher involvement of the Centre personnel, time and energy in planning (and perhaps in monitoring) but risk leading to an output that will be primarily of interest to the Centre, rather than one which creates local competence and relates to local needs.

1.19 In terms of ensuring that networks are responsive, the project identification meeting appears to be useful by way of creating a dialogue and broadening both IDRC and recipient horizons. These meetings require careful planning and organization and IDRC's ability to do this would be enhanced were it to have a stronger in-house feed back from project identification meetings and to use this to train both staff and project leaders.

1.20 It is clearly desirable that the prime force in generating a network should be LDC scientists. However, in many cases they are better trained in doing research than in identifying what research should be afforded priority. Many young scientists are highly trained abroad but have worked in narrow and esoteric fields which may be of limited relevance in an LDC environment.

1.21 The strongest common feature of the networks studied is their possession of a coordination mechanism, usually through the presence of a project coordinator or of a coordination unit. The coordinators acquire a great deal of expertise, often at some expense since coordination may comprise up to 40% of network costs. Little thought appears to have been given by IDRC

as to how the Centre can best capitalize on the returns from the expensive process of coordination which is often tackled on an 'ad hoc' basis.

1.22 Coordination by permanent staff is seldom used, even though the most appropriate expertise may be in-house, because coordination is so time consuming and because Divisions try to artificially minimize their management costs. There has been a tendency to contract coordination to international institutions or to short term contract employees. In both instances neither IDRC nor the national institutions are necessarily the beneficiaries of the knowledge and experience gained by the coordinator when the project ceases. Only in rare cases is coordination carried out by a permanent or contracted staff member of a participating national institution, although this approach appears to be particularly valuable in providing experience in research management arising from the coordination role.

1.23 There is a need to learn from past experience in network coordination and to try to reduce the cost and increase the effectiveness of this task. This effectiveness needs to be considered in terms of institution building as well as project management. To this end more stress should be given to effecting coordination by national agencies and by permanent IDRC staff (even if this means increasing the core staff) rather than by hiring short term staff to do the task. To justify the extra cost of this IDRC needs to devote less emphasis to how the budgetary cake is divided and to place more stress on what its money is achieving.

1.24 Past experiences using consultants suggests that such persons are of particular value where their input has some form of continuity. In network projects it is also enhanced where the consultant serves the network as a whole. In this way he supplements the coordinator in his specific field of expertise. By visiting several projects in the network his horizons are broadened and his recommendations often more relevant. Where such a consultant also assists in the overseas training of network participants he can also help develop links between projects by acting as a focus for the training of scientists from more than one project.

1.25 The use of workshops and published reports are widespread in IDRC networks. Both practices seem to be widely acclaimed although never formally evaluated. There is a considerable lack of uniformity in the style and output from different workshops, even within the same Division. Some produce highly acclaimed reports, be they final network reports or state-of-the-art reviews. Others produce publications of more questionable value.

1.26 Whilst we have endorsed the individuality and flexibility of the network approach elsewhere in this report we believe that a sense of perspective is necessary. To this end IDRC should be more quality conscious in its networks and should undertake much higher management monitoring with regard to matters such as workshop justification, organization and output. An initial step might be to analyse what publications have arisen from networks to date and to identify their cost and possible impact.

1.27 The borderline between coordinating and monitoring IDRC networks is sometimes a grey area. Program staff, especially senior ones who are recognized authorities in a network field, sometimes become heavily involved in coordinating and managing a network. This is usually welcomed by the participants but puts a heavy strain on the work and travel load of the officer concerned. As a result, in-house resources are not always used to IDRC's best advantage.

1.28 In many networks the recipients technical work is of a higher quality than their administration and financial reporting. IDRC needs to provide more help through in-project training for grantee non-scientific staff if it wishes project progress to be more rapid. There is an understandable tendency for IDRC to be critical of LDC research workers when their reports arrive months late and their accounts show inadequate detail. This situation is often the result of weaknesses and failures in administrative offices over which the researchers have no control, but it may mean that disbursement of funds to them is delayed.

1.29 The solution lies in strengthening research administration by using IDRC administrative and finance personnel to assist program officers in monitoring, and thereby to train recipient administrators on the job. Such an action is probably best carried out through the Regional Offices. It will entail a management cost but is likely to have a high pay-off.

1.30 The input of Canadian scientists and institutions to IDRC networks has been limited, several had assistance from Canadian

consultants but only two of the ones that we studied disbursed funds directly to Canadian institutions. This approach is compatible with IDRC's avowed goal of developing competence in local institutions, and with its policy of not having any 'tied' funds. In principle the Team felt that this approach was correct and that it was important to clearly establish it. However, there are occasions when there is a role that Canadian institutions or scientists might play and there may be scope for exploiting such opportunities on a broader scale than has occurred in the past when proposals to disburse funds to Canadian institutions have been opposed by some Centre Governors.

1.31 Current networks appear to give more emphasis to the production of knowledge than to its dissemination and utilization. Some networks have required an extra phase to carry out a dissemination program since this was overlooked when the network was planned. Even at present dissemination is extremely 'ad hoc' and the linkages that AFNS, HS and SS have with IS and the Communications Division are still quite tenuous, especially at the planning stage. There is an important role that the Projects Committee could play in ensuring that summaries that go before the Board should try to define the answers to a number of questions about the dissemination of project results and the way in which they will be made available to potential users. Where such an action is not feasible when a project is first structured, provision should be made for a Phase 2 to cover dissemination,should this seem likely to be necessary.

1.32 The results from projects that have terminated to date also seem to indicate that the mechanism and impact of disseminating research results are two fields which themselves require a great deal of research. Such research may be as important as the research on biological or social phenomena which it is desired to disseminate. It represents a field of activity in which the Team believes IDRC might be much more active.

1.33 The question of network termination is one to which the Team devoted some time. Network summaries often lack precision in defining whether the network is intended as a one-off effort or is supposed to be the first phase of a permanent activity. If IDRC does not expect to continue funding a network activity beyond a specific time horizon it is important that the network participants should understand this when the network is created.

1.34 If IDRC envisages a network as enduring for a long time it is important that the way in which the network is ultimately to be funded should be spelled out at its initiation. In such networks it would be desirable that IDRC should phase out its support gradually rather than abruptly, possibly allowing the permanent coordination unit to accummulate a small contingency fund to buffer the ultimate phasing out of IDRC support.

1.35 A major cost in networks is that of coordination. It is usually beyond the ability of LDC's to fund an international coordinator from their own resources. In temporary networks this does not matter, in permanent ones it means that coordination can only endure if it is established through some form of permanent institution such as an agency that has stable

long-term financing from international sources. The Team suggests that IDRC may need to identify itself more closely with such international agencies in the formative stages of networks designed to have some measure of permanence.

1.36 There may be occasions when it would be preferable for IDRC, rather than trying to create new networks, to use its resources to strengthen ongoing ones, even though these may be sponsored primarily by other agencies. IDRC has tended to stress its innovativeness but it also has great flexibility and this attribute could contribute to inter-agency network activities. This has already been done to some extent by IS but is a measure that might well be expanded in the future.

B Recommendations

WE RECOMMEND:

1.37 That IDRC SHOULD CONTINUE TO INCLUDE NETWORKS IN ITS PROJECT PORTFOLIO, that THERE SHOULD BE NO SPECIFIC BUDGET ALLOCATION FOR NETWORKS and that THE CURRENT FLEXIBILITY AND INDIVIDUALITY OF THE NETWORK APPROACH SHOULD BE MAINTAINED.

1.38 That, particularly where strong Regional Offices exist, IDRC SHOULD GIVE CONSIDERATION TO DEVOTING MORE EMPHASIS TO A REGIONAL APPROACH WITH RESPECT TO BOTH THE GOALS AND THE MANAGEMENT OF NETWORKS.

1.39 That, IN ORDER TO DEVELOP AN INTERDIVISIONAL APPROACH IN THE NETWORK PROGRAM IDRC SHOULD ESTABLISH MECHANISMS FOR ENCOURAGING AND FOR COORDINATING INTERDIVISIONAL MULTIDISCIPLINARY NETWORKS.

1.40 That IN THE LEAST DEVELOPED COUNTRIES AND INSTITUTIONS IDRC NETWORKS SHOULD GIVE MORE EMPHASIS TO INSTITUTIONAL DEVELOPMENT, THIS COULD MEAN LESS STRESS ON RESEARCH PROJECTS AND MORE ON ACTIVITIES TO DEVELOP LOCAL CAPABILITIES. In some situations this could imply programs of much longer duration than at the present time.

1.41 That, WITH THE SPECIAL EXCEPTION OF THE LEAST DEVELOPED COUNTRIES, IDRC SHOULD CONTINUE ITS PRESENT POLICY OF ALLOWING A RANGE OF GOALS, INCLUDING INSTITUTION BUILDING, HUMAN RESOURCE DEVELOPMENT, ATTAINING RESEARCH RESULTS AND PROVIDING INFORMATION FOR DEVELOPMENT PLANNERS, TO BE UNDERTAKEN IN THE NETWORKS AS A WHOLE.

1.42 That IDRC SHOULD DEVOTE A LARGER PART OF ITS BUDGET TO HIGH RISK NETWORK PROJECTS IN SELECTED LDC INSTITUTIONS. Such projects are best established as parts of networks WITH STRONGER LDC

PARTNERS WHOSE OWN PROGRAM COMPONENT SHOULD NOT BE PENALIZED SHOULD THE WEAKER UNITS FAIL TO MEET DEADLINES AND SCHEDULES.

1.43 That IDRC SHOULD ADOPT A SYSTEM OF MORE OPEN MANAGEMENT which freely discusses project errors and failures and uses these TO DEVELOP BETTER PROGRAMS ON AN ORGANIZATIONAL, RATHER THAN A DIVISIONAL, BASIS. THERE IS A NEED TO USE THE LESSONS OF EXPERIENCE THAT CAN BE DERIVED FROM CASE STUDIES, ESPECIALLY OF NETWORKS, FOR A TRAINING PROGRAM FOR BOTH IDRC STAFF AND GRANTEES. Such a program could not only serve research administrators in the LDC's but would be of enormous value for the in-service training of IDRC's own professionals, particularly those in Ottawa who frequently lack the type of first hand operational field experience which comes only from working in (rather than visiting) field projects. EXCHANGING INTERDIVISIONAL EXPERIENCES ON PROJECT PLANNING TO DISCUSS MATTERS SUCH AS THE ORGANIZATION AND ROLE OF PROJECT IDENTIFICATION MEETINGS AND THE EXTENT TO WHICH IDRC SHOULD BE SUGGESTIVE RATHER THAN RESPONSIVE IN DEFINING RESEARCH PRIORITIES IN THE LDC'S, SHOULD BE AN INTEGRAL PART OF SUCH A TRAINING PROGRAM.

1.44 DIVISIONAL MANAGEMENT SHOULD CONSIDER NETWORK COORDINATION IN TERMS OF ITS EFFECTIVENESS AS WELL AS ITS COSTS. IN NETWORKS WITH A FINITE LIFE SPAN THE USE OF INTERNATIONAL ORGANIZATIONS AND INTERNATIONALLY CONTRACTED NETWORK COORDINATORS SHOULD BE MINIMIZED AND, WHENEVER POSSIBLE, COORDINATION SHOULD BE EFFECTED EITHER BY PERSONNEL FROM A NATIONAL GROUP OR BY PERMANENT IDRC STAFF, PREFERABLY LOCATED IN A REGIONAL OFFICE.

1.45 That, IN THE CASE OF <u>PERMANENT</u> NETWORKS THERE ARE CLEAR

ADVANTAGES IN LINKING THE COORDINATING MECHANISM TO AN ESTABLISHED INTERNATIONAL AGENCY. IDRC SHOULD BE PREPARED TO DO THIS AND TO STRENGTHEN EXISTING AND WORTHWHILE NETWORKS ORIGINATED BY OTHER AGENCIES (even if these be agencies which receive support from Canada via CIDA). IT SHOULD NOT LIMIT ITSELF TO SUPPORTING ONLY NETWORKS WHICH THE CENTRE INITIATES.

1.46 That THE PRACTICE OF USING CONSULTANTS TO WORK WITH A NETWORK AT LARGE RATHER THAN WITH PARTICULAR PROJECTS IN IT SHOULD BE MORE WIDELY ADOPTED. This measure is particularly beneficial in terms of continuity, and also of training in those instances where the consultant's home institution is capable of offering advanced training opportunities to participants in the network.

1.47 That EFFORTS SHOULD BE MADE TO MONITOR WORKSHOPS AND PUBLICATIONS MORE CLOSELY IN ORDER TO ACHIEVE A MORE UNIFORM STANDARD OF EXCELLENCE. The importance of both of these activities in the network program is such that IDRC STAFF SHOULD RECEIVE TRAINING IN ORGANIZING WORKSHOPS AND NETWORK PUBLICATIONS. The latter should only be released if they clearly represent a significant and positive contribution and not merely because they are a final report.

1.48 That IDRC SHOULD RECOGNIZE THE NEED TO DEVELOP NOT ONLY RESEARCH CAPACITY BUT ALSO THE APPROPRIATE ADMINISTRATIVE AND FINANCIAL EXPERTISE IN THE INSTITUTIONS THAT IT IS SUPPORTING. IT SHOULD INCLUDE TRAINING ON RESEARCH MANAGEMENT, INCLUDING ITS FINANCIAL ASPECTS, AS A COMPONENT OF NETWORK PROGRAMS, WHERE THIS SEEMS APPROPRIATE.

1.49 That THE CURRENT POLICY OF LIMITING THE DIRECT INVOLVEMENT OF CANADIAN INSTITUTIONS OR SCIENTISTS IN IDRC NETWORKS SHOULD BE MAINTAINED. Network research usually involves activities that have a particular developing country bias. However, THERE ARE CIRCUMSTANCES IN WHICH THE MOST COST-EFFECTIVE WAY OF ADVANCING A PROJECT OR ITS RESEARCH IS BY INVOLVING DEVELOPED COUNTRY PERSONNEL. IN SUCH CIRCUMSTANCES CONSIDERATION SHOULD OBVIOUSLY BE GIVEN TO LINKING A CANADIAN COMPONENT TO THE NETWORK AND PROPOSALS TO THIS END SHOULD BE LOOKED AT LESS STRINGENTLY BY IDRC'S GOVERNORS.

1.50 That PROJECT SUMMARIES, INCLUDING THOSE FROM NETWORK PROJECTS SHOULD, WHEREVER POSSIBLE, PROVIDE SPECIFIC INFORMATION ON WHAT INFORMATION THE PROJECT IS EXPECTED TO PROVIDE, HOW WILL IT BE CHANNELLED TO TARGET GROUPS, WHO WILL BE RESPONSIBLE FOR SUCH DISSEMINATION, WHAT WILL IT COST AND WHAT ARE THE TIME PARAMETERS INVOLVED.

1.51 That IDRC SHOULD CONDUCT, CONTRACT AND/OR FOSTER RESEARCH ON THE MECHANISM AND IMPACT OF DISSEMINATING THE RESULTS OF RESEARCH, ESPECIALLY IN NETWORK PROJECTS WHICH ALREADY POSSESS DEFINED LINKAGE MECHANISMS.

1.52 That WHEN NETWORKS ARE CREATED A CLEAR STATEMENT SHOULD BE MADE IN THE PROJECT DOCUMENTATION AS TO WHETHER THE NETWORK IS INTENDED AS A ONE-OFF EFFORT OR IS EXPECTED TO HAVE SOME DEGREE OF PERMANENCE.

1.53 That WHERE NETWORKS ARE EXPECTED TO ENDURE, THE PROPOSED MECHANISM FOR THEIR LONG TERM FINANCING SHOULD BE SPELLED OUT IN THE ORIGINAL PROJECT DOCUMENTATION AND WHERE IT INVOLVES OTHER DONOR AGENCIES' WRITTEN COMMITMENTS SHOULD

BE OBTAINED FROM THEM.

1.54 That IDRC'S BOARD OF GOVERNORS SHOULD LAY DOWN SOME POLICY GUIDELINES IN TERMS OF THE MAXIMUM DURATION OF SUPPORT (in terms of Phase 2 and subsequent projects) THAT IT CONSIDERS SUITABLE FOR PARTICULAR PROGRAM AREAS. NETWORKS THAT ARE UNLIKELY TO ACHIEVE THEIR SPECIFIED OBJECTIVES WITHIN THE PROBABLE PERIOD OF IDRC FUNDING SHOULD NOT BE UNDERTAKEN. SOME RESEARCH IS UNLIKELY TO BE COMPLETED IN LESS THAN A DECADE AND INSTITUTIONAL CREATION CAN TAKE EVEN LONGER. IF IDRC PLACES MORE EMPHASIS ON INSTITUTION BUILDING IN THE FUTURE (para. 1.40) IT MUST RECOGNIZE THE IMPLICATIONS OF THIS ACTION IN TERMS OF THE DURATION OF SUPPORT THAT INDIVIDUAL PROJECTS OR NETWORKS WILL NEED.

II. INTRODUCTION

A. Background

2.1 IDRC's mandate as expressed in the Parliamentary Act which established the Centre, defined its objectives as being 'to initiate, encourage, support and conduct research into the developing regions of the world and into the means for applying and adapting scientific, technical and other knowledge to the economic and social advancement of those regions'.

2.2 In a number of instances this mandate has been fulfilled at the program level by supporting activities known as 'research networks'. The format of individual networks varies considerably, although a number of them contain certain common elements.

2.3 In order to assess what has been learnt from past network activities and to determine whether the current network approach might be improved, the Office of the Vice-President for Planning decided to conduct an examination of project networks as part of its new mandate to review issues and policies, as approved by IDRC's Management in May 1979.

2.4 During the summer of 1979 the Vice-President for Planning and his Associate Director identified and met with the Team selected to carry out this network study. This Team was led by a consultant, Barry Nestel (an IDRC staff member from 1970-1976), and included Jingjai Hanchanlash and Henrique Tono. The Team synchronized

their duty travel activities to meet together in Singapore in September 1979 and the team leader met with Doug Daniels in England later in that year. Subsequent to this meeting the Team were presented with the following terms of reference.

B. Terms of Reference

2.5 The Team will:

(a) determine the extent to which the network approach has been used in Centre-supported programs;

(b) determine the various approaches to developing networks employed by Centre staff;

(c) assess the extent to which these networks encompass scientists and institutions not directly supported through Centre projects including scientists and institutions in Canada and other industrial countries;

(d) assess the extent to which links between scientists and institutions are maintained after Centre support for their projects or for the network as a whole is discontinued;

(e) assess the advantages and disadvantages of the different methods used to build networks;

(f) assess the value of the network approach in terms of improving local capability (human and institutional) project results and impact for development;

(g) make recommendations on how the Centre might encourage the development of more effective networks.

C. Work Plan

2.6 The Team worked intermittently on the study between November 1979 and July 1980. At their meeting in September 1979 they drew up a work program which divided desk studies, staff interviews and recipient interviews amongst the three of them. The Regional Directors (with inputs from their staff), carried out most of the desk studies. During the course of their routine duty travel they conducted extensive interviews with grantees in network projects. The Consultant interviewed IDRC staff in Ottawa during visits there in January and June 1980. He also interviewed program staff during program monitoring visits to Singapore, Nairobi and Sussex University. The Consultant took specific responsibility for coordinating the planning, execution and drafting of this study.

2.7 In addition to their initial meeting in Singapore the entire Team met there again in March 1980 at the time of the Regional Directors' meeting, when they discussed an interim report prepared by the Team leader. A third meeting of the complete Team took place in London in July 1980 when they drafted their final report. Throughout the study the Team liaised closely with the Vice-President and Mr. Daniels, the Consultant meeting them in Ottawa in both January and June 1980 and the whole Team meeting with them in March of this year.

2.8 Altogether over 50 IDRC staff members (principally program staff who had had several years of experience with the Centre) and over 60 IDRC project grantees were interviewed

for the purpose of this study. The final draft of the report (but containing only an early version of the first chapter) was circulated within IDRC in June 1980 and staff were invited (and did) make written comments on it which the team took into consideration at their London meeting at the end of July.

2.9 The Team carried out detailed desk studies of 12 IDRC networks selected from a global matrix which embraced networks in different regions, of different sizes, with different formats and linkage mechanisms and managed by different IDRC Divisions. It must, however, be stressed that the sample studied was not a random one, but was deliberately selected, in consultation with the Program Divisions, in order to embrace as wide a spectrum as possible of network planning and activities.

2.10 The Team did look, in less depth, at a number of other networks, especially those centred on the Regional Offices. Nevertheless, as far as possible, it has opted to use the 12 'Case Study Networks' to illustrate points being made in this report, even though on some occasions other networks provided better illustrations of an issue. However, it was felt that were the report to use too large a range of examples it would be difficult to follow by persons unfamiliar with the whole program of IDRC.

2.11 The Case Study Networks, (which are described in more detail in paragraphs 3.11 to 3.14), together comprised 15% of the total projects supported by IDRC during the period 1970-1979 and represented approximately 16% of the total budget for projects.

2.12 Because of the large number of IDRC projects that are parts of networks, the wide range of approaches adopted towards

networking, and the influence of individual program staff on the design, style and management of the networks with which they were associated, it has not been possible to prepare any form of network typology. Nor has the Team been able to make much progress with regard to ranking network approaches or commenting in depth on cost-effectiveness. It is acutely conscious of the fact that many of the judgements that it has offered are highly subjective but considers that, even with much more time than has been at its disposal for the study, any quantitative analysis would still have had to be as generalized as is the definition of the term 'network' used in Chapter 3.

III. THE EXTENT TO WHICH IDRC HAS USED A NETWORK APPROACH

A. What is a network?

3.1 For the purpose of this report we have felt that an appropriate brief description of a network is that used by Webster's English Dictionary which states that it is 'an inter-related or inter-connected system'.

3.2 This very general description appears to encompass the wide range of different types of project activities that IDRC staff describe as 'networks'. In IDRC-funded projects networks are of two main types. In the first of these (which we have called horizontal networks), the network is a single project which has a number of researchers in different countries working on a common problem. The researchers are usually linked through a coordinator in one of the participating countries or at a non-participating institute. Alternatively the network may involve a number of quite separate projects in different countries, all of which are working on an inter-related theme such as the development of a specific crop or the disposal of waste water. We have referred to such networks in this report as being 'vertical' ones.

3.3 The connections between the various projects in a network may be of various forms and may involve people, meetings, research, publications and so forth, the key issue being that some form of 'relationship' or linkage takes place through project activities.

B. Why is IDRC Interested in networks?

3.4 For the achievement of IDRC's corporate objectives its mandate calls upon it to:

(a) enlist the talents of natural and social scientists and technologists of Canada and other countries;

(b) assist the developing regions to build up the research capabilities, the innovative skills and the institutions required to solve their problems;

(c) encourage generally the coordination of international development research; and

(d) foster cooperation in research on development problems between the developed and developing regions for their mutual benefit.

3.5 Whilst the word 'network' is not specifically mentioned in the Parliamentary Act, coordination and cooperation, by their very nature, do relate closely to the definition of a network that has been given above.

3.6 At the time when IDRC was first defining its Divisional programs a great deal of attention was given to the most appropriate mechanism for maximising the utilisation of scarce human resources in the most productive way. The magnitude of IDRC's budget was insufficient for it to attempt to encompass programs with the scale and breadth of those carried out by large multi-national and bilateral agencies. In his early speeches to the Board of Governors the then President of IDRC stressed the importance of focussing the Centre's program on very specific areas of activity.

3.7 Because of the organisational structure of IDRC this focus has been applied on a sectoral, rather than on a geographic, basis (e.g. supporting cropping systems rather than having specific budget targets for individual countries). However,

wherever possible the benefits of a particular piece of research are intended to be global or regional rather than country-specific. Indeed the 1974/75 IDRC Annual Report states that 'a major preoccupation of the Centre staff has been to build networks so that researchers do not work in isolation but in collaboration with researchers in other countries and regions'. Within this framework, this and later Annual Reports use the expression 'network' rather freely to illustrate problem-oriented portfolios of 'related' IDRC projects.

C. The Scope of IDRC's network involvement

3.8 During its first nine years of operation, terminating in December 1979, IDRC funded 822 projects at a total cost of 150 million Canadian dollars. A significant number of these projects can be classified within the broad definition of a network as presented earlier in this chapter.

3.9 In Table 1 we have attempted to present a summary of IDRC's project portfolio which indicates the magnitude of networks in both the Divisional and the overall programs. The Table breaks down project networks by Program Divisions and budgets and suggests that at least 35% of the approved projects and 43% of the approved program budget to December 1979 was allocated to projects that could be defined as components of a network. Thus, the magnitude of the network involvement within IDRC's programs is such, certainly in some Divisions, that any discussion of networks is difficult to divorce from a discussion of the Divisional program as a whole.

3.10 The range of networks supported by IDRC runs from small single projects to large complex commodity networks involving more than 50 projects. An example of a smaller network is the 'Low Cost Housing' project in Asia where, for a total cost to IDRC of $211,000, eight different institutions participated in a comparative study. At the other extreme, networks such as AGRINTER and Science and Technology Policy Instruments (STPI) have each had a total cost for IDRC of over $1 million, and the even larger Cassava network, embracing over 60 different projects ranging in value from under $5,000 to over $1 million has had a total cost (including funds managed on behalf of CIDA) in excess of $7 million. We have examined the possibility of disaggregating certain large networks, such as the Forestry one in Africa and Cassava, into more discrete levels of activity. However, such a step appears to be very arbitrary and to be unrelated to the development of either of these networks so we have not pursued it.

D. The Case Study Networks

3.11 Given the enormous range of different sizes and types of IDRC networks the Team have attempted to select a group of representative ones which would encompass most of the key characteristics found within the different types of networks that the Centre has been supporting. For the purposes of this report, we examined these specific networks in great depth. However, as already mentioned, during the course of our reading, discussions and travel, we also looked at a number of other network projects.

TABLE 1

SIGNIFICANCE OF NETWORK PROJECTS IN IDRC'S OVERALL PROGRAM

	NETWORK PROJECTS (A)			OTHER PROJECTS (B)		TOTAL PROJECTS (A + B)		% OF NETWORK PROJECTS IN DIVISIONAL TOTAL	
	No.	$m.	No. of Networks	No.	$m.	Total No.	Total $m.	No.	$m.
AFNS	160	34.1	17	156	33.0	316	67.1	51	51
HS	22	2.9	12	131	20.3	153	23.2	14	12
SS	78	18.8	37	138	17.7	216	36.5	36	52
IS	28	8.2	6	78	11.2	106	19.4	26	42
OTHER	0	0	0	31	3.9	31	3.9	--	--
TOTAL	288	64.0	72	534	86.1	822	150.1	35	43

NOTE:

1. The costs only include project costs so training, workshops and publications funded by the human resources, DAP and publications budgets are additional to the figures shown above.

2. AFNS also had 33 projects and $7.25 million of CIDA funding which it administered for its Triticale and Cassava networks. If these figures were included in the above table the AFNS networks would comprise 54% of its projects and of its budget.

3.12 Table 2 identifies the networks studied in detail and also summarises information on a number of their specific features in order to illustrate the range of Divisional, Regional and linkage characteristics covered by these networks. In total this group of networks comprises 120 projects with an overall budget of about $24 million. These two figures represent respectively 15% and 16% of the total number of IDRC projects and the total budgetary disbursements from 1970 to 1979.

3.13 We have not attempted to precisely define the cost of individual networks because IDRC's accounting system does not readily lend itself to this exercise. Network costs do not all fall neatly into project accounts but usually involve substantial sums in various types of training activities, publications and DAPs for a range of consultancy and workshop activities. Thus, both in the text and in Table 2, we have rounded off financial data using our best judgements on all of the figures available to us. It is, however, possible to comment on the order of magnitude of certain specific costs such as international coordinators and workshops and there is some discussion on this subject in Chapter 7.

TABLE 2

MAIN CHARACTERISTICS OF CASE STUDY NETWORKS

Title	No of Countries Involved	IDRC Division				Main Region					Lead Institute				Designated Coordinators	Training Program	Exchange of Scientists	Documentation	Workshops	Canadian Input	Advisory Committee	Project Identification Meeting	Network Size (Large, Medium, Small)	Government Private Sect University
		AFNS	HS	IS	SS	Global	Asia	AFr	LA	ME	IDRC	Int.	Nat.	NGI										
Cassava		•				•					(•)	•			(•)	•	•	•	•	•	•		L	G P U
AGRINTER (Latin America)	25			•					•			•			•	•		•	•		•	•	L	G
PLANTRU			•						•				•		•			•			•	•	M	G P U
Primary Health Care (LA)	4		•						•					•		•			•				L	G P U
ITPI	10				•	•					•				•			•	•		•	•	L	G P U
Housing (Asia)	8				•		•						•		•		•	•	•			•	S	G P U
Waste Water	5		•			•					•				•	•	•		•			•	M	G U
ECHONET	9			•			•				•				•	•	•	•	•	•	•	•	L	G P U
Post Harvest (Asia)	5	•					•					•			•	•	•	•	•		•	•	M	G U
Forestry (Africa)		•						•			•				•	•						•	M	G
Public Sector Salaries					•			•					•		•		•		•			•	S	G P U
Population Distribution Policies (LA)	9				•				•				•		•		•	•	•		•	•	S	G P
Total	-	3	3	2	4	3	3	2	4	0	4	3	4	1	10	7	7	8	10	2	7	10	L 5 M 4 S 1	G 12 P 8 U 9

3.14 There are some points in the table where clarification may be helpful:

(a) Countries Involved - denotes the number of countries in the network which received working funds either directly from IDRC or via the project coordination unit. It does not include countries receiving funds from the network solely for activities such as the travel of scientists to project meetings.

(b) The IDRC Division - is the one primarily responsible for the network although (rarely) others may be involved, as with Cassava where there are projects in IS and HS.

(c) The Main Region - indicates the principal geographic focus of the network as studied. In the case of Primary Health Care, projects exist globally but the team only examined those in Latin America. No networks were studied in the Middle East Region.

(d) The Lead Institute - is the one in which the person responsible for directly coordinating the network was located. In some cases IDRC paid for a coordinator as an IDRC advisor and located him in a Regional Office (TECHNONET, Forestry (Africa), Waste Water), or in a specially created office (STPI). In other cases IDRC provided a coordinator at an International Centre (Post Harvest Asia). In the case of the Cassava network the coordination was carried out

mainly by the IDRC program officer but from 1976 this responsibility was shared with an International Institute (CIAT) where IDRC funded two staff members - thus the lead institute was initially IDRC and later CIAT. In the Population Distribution Policies and PLAMIRH networks the lead institutes were national ones where full-time coordinators were located. In the case of PLAMIRH the host institution actually disbursed funds for grants on IDRC's behalf. National institutions were also used to house part-time coordinators in the Public Sector Salaries (Africa) and Low Cost Housing (Asia) projects. However, in the latter case the coordinator operated out of his home institution in Hawaii which was not itself involved in the network. Finally there was no lead institute or coordinator in the Primary Health Care (Latin America) projects which, although possessing the elements of a network, as defined in this report, were not, in the past, regarded as a network by HS Division, although this situation is now being re-assessed.

(e) The Designated Coordinator - as already noted, all networks but one had a designated coordinator.

(f) Training Program - nearly all networks had some form of training activity, indeed doing the research itself was a form of training. However, seven of

the networks provided specific budgetary provision for sending people away on short courses or for advanced degrees.

(g) Exchange of Personnel - seven of the network budgets made provision for persons in one project in the network to visit those in others. Sometimes this was done through regular but rotating meetings.

(h) Documentation - all networks produced reports, (sometimes too many of them), but seven had a published report as a main objective.

(i) Workshops - all but two of the networks featured workshops in their activities.

(j) Canadian Input - only two of the networks had a Canadian institutional link as a budgetary component.

(k) Advisory Committee - six of the networks used some form of advisory committee.

(l) Project Identification Meeting - nine of the networks were preceded by a project identification meeting.

(m) Project Size - the difficulty in precise costing has already been referred to. We have arbitrarily defined networks into large (over $1 m), medium (over $¼ m) and small (under $¼ m).

(n) Institutional Grantees - all networks involved at least one government institution, nine also involved universities and eight had components at private sector institutions.

IV. THE VARIOUS APPROACHES USED BY IDRC IN DEVELOPING NETWORKS

A. Divisional approaches

(i) AGRICULTURAL FOOD AND NUTRITION SCIENCES

4.1 This Division has built most of its networks on commodity or farming systems programs in such broad fields as agro-forestry, cropping systems, aquaculture, sorghum, grain, legumes, cassava and crop by-products. In the main, these subjects are closely related to the professional interests and fields of expertise of the Divisional staff, who have developed a wide range of projects related to these theme areas.

4.2 In many AFNS networks the network concept originates principally in the mind of the program officer developing it and involves a process of developing individual projects in various countries over several years, these are then linked together by technical workshops, reciprocal visits of scientists and interchange of research results. In actuality, it begins with a series of projects or activities without much interaction which is later gradually built in. Such networks do not necessarily lend themselves to following a rigid pre-determined plan and evolve according to the interpretations placed by the participants on the specific needs of the network at the current stage of its development.

4.3 A network within the AFNS Division usually deals with a range of subject oriented issues. In this sense it tends to be vertically integrated. Thus, the networks on sorghum and on cassava involve specific projects in different

countries and embrace breeding, physiology, agronomy, entomology, pathology etc. A similar type of approach is found in some of the IS networks, particularly those related to agriculture,which provide global services on information or documentation relating to AFNS networks such as the ones on grain legumes and cassava. Indeed, some of the few examples of IDRC interdivisional activities that we have observed relate specifically to the linkages between AFNS and IS Divisions in the field of agricultural network documentation. However, within AFNS itself there is an added trend towards closer interdisciplinary links, thus the post production program of the Division is becoming increasingly integrated with the crops program.

4.4 Many of the major AFNS Division networks are associated with research institutions that are either regional or are part of the Consultative Group for International Agricultural Research (CGIAR). The presence of large and well funded International Institutions appears to have facilitated the developments of AFNS networks (such as the Cassava one), with IDRC funded projects acting as 'outreach' activities for the International Centres. IDRC has been to the fore-front in the development of some of the newer of these International Centres and has been in on the ground floor in the formulation of their outreach strategies so that the commodity network approach of the Division has been synergistic with the dissemination activities of these Centres.

4.5 Not all AFNS networks are tightly integrated vertically nor linked to CGIAR centres. The African Forestry network comprises 21 loosely aggregated projects some of which can be grouped in a theme basis whereas others stand in isolation. Four projects relate to agrisilviculture, three to shelter belts, two to irrigated plantations, three to afforestation in the Sahel, three to afforestation in East Africa, two to tree improvement, three to wood utilisation and one stands in isolation. Thus the 21 projects could be classified as six sub-networks some of which interrelate. Some of these have arisen in an 'ad hoc' fashion whereas the agrisil-viculture one arose in a planned way following a project identification meeting. Even with projects with similar titles such as 'shelter belts' there may be quite major differences in approach. For example the projects in Tunisia and Sudan look at existing shelter belts in terms of agricultural production whereas the shelter belt project in Egypt is a varietal selection project for rather specific conditions.

4.6 Classifying all of these projects as a single network has a certain measure of administrative convenience which helps to justify the establishment of a coordination unit to assist and monitor them. But at present the network is a little more than one in name. There has been limited interchange of personnel in spite of IDRC efforts to encourage this. The 'network' faces many problems common to so many projects in Africa such as the relatively low calibre of personnel in the Forestry Departments of many African

countries, the low priority given to forestry research, the long duration of this type of work and the high turnover in project staff. It has a long way to go before it reaches the stage of vertical integration of the Post Harvest and Cassava networks, both of which work with countries and themes more richly endowed with trained personnel than is the forestry sector in African countries.

(ii) SOCIAL SCIENCES

4.7 The second Division with a very large number of network activities is the Social Sciences Division. In this Division networks tend to have a rather specific problem-oriented focus with a number of scientists in different countries working on a closely related problem. In general, the projects have been established after a project identification meeting and they often set out to have a common methodology. Thus, as opposed to the 'vertical' integration of the AFNS networks those in SS tend to be 'horizontally' integrated with the same topic being examined at various locations rather than at various levels. To some degree this may be a reflection on the location specific nature of the social, political or economic phenomena that social scientists study and the need to undertake more comparative case studies to determine the most significant causes of the problems being examined.

4.8 In many Social SciencesDivision networks considerable stress is placed on comparative methodology when the project is first prepared but in practice, it is not easy to find a

group of social scientists with precisely identical interests and goals and in many of the projects strict comparisons are not always easy to apply. The only way that this could be brought about would be by relating the disbursement of funds to strict compliance with a rigid methodology, and such an attitude would not be in conformity with IDRC's responsive approach.

4.9 One of the problems facing the program staff in trying to develop horizontally integrated networks is that national priorities are seldom identical, and what one researcher assumes to be relevant to his interests is not necessarily identical to the interests of other researchers in the same network. Another problem is the different level of research capability in each participating country.

4.10 Given the 'State-of-the-Art' of social sciences research which is basically conducted by academic and private institutions, the SS Division has tended to work less with public sector institutions than have other Divisions. Many of its networks have been based on either academic institutions or private foundations (all four of the case study networks in SS Division had a large private sector or academic institution component.)

4.11 Many SS networks also appear to stress linkages between individual scientists rather than between institutions. The Team has the impression that this characteristic relates both to a lack of institutional social science capability in many countries and also to the concentration of the

networks in academic institutions where greater individual freedom of choice of research exists than in public sector institutions.

4.12 In discussing this with one of the senior members of SS Division he has pointed out that social scientists tend to move their activities across a range of inter-related topics. He claimed that the Population Distribution network laid a convenient but transitory focus on population distribution issues for many of the investigators,some of whom have now moved on to study a variety of related topics whilst still keeping in touch with one another. He suggested that the network opened research opportunities in an area where previously few had existed,and incited other donors into supporting research in this field.

4.13 However, population distribution policy is a politically sensitive subject and, in terms of impact, it is difficult to envisage the conclusions from the research in the IDRC network as doing more than heightening the awareness of previous program failures and cautioning governments against hoping for immediate success through limited programs in fields such as colonisation and resettlement. Whether, of course, increasing awareness on the part of policy makers will lead to the development of better programs and appropriate changes in sectoral policies is another matter but, given the existence of a Social Sciences Division within IDRC, it would appear rational for them to support research on this type of activity.

(iii) INFORMATION SCIENCES

4.14 There are at least four types of IS networks - the first specialized information centres serving a specific international clientele; the second, such as AGRIS or AGRINTER, where national centres contribute to and provide services from a global or regional file, and in doing so set their own houses in order; a third, such as TECHNONET, which bring together several participating organizations sharing resources under a broad program; and a fourth, MINISIS, in which several institutions are cooperating in a specific activity coordinated by IS Division by means of licencing agreements.

4.15 Almost all IS projects are concerned with the sharing of existing information, the elimination of duplication, and the optimum use of scarce information resources so that networking is the prime aim. By and large, IS do not initiate the networks themselves; they are or should be under the coordination of the most appropriate international agency. Nevertheless, all of IS agricultural information projects, for example, can be considered under the broad heading of AGRIS, in its utopian form if not in its present form. AGRIS and most of the international cooperative information systems it supports are not IDRC systems. The only exceptions to this might be DEVSIS, which many people regard as an IDRC system, and the group of institutions that are becoming linked through the MINISIS licencing agreements, a network of a different sort.

4.16 Most IS projects, network or otherwise, also differ from those of other Divisions in that the activities are expected to last for five years, ten years, or even longer. Projects aimed primarily at national interests (e.g. national AGRIS centres) should quickly become the responsibility of the national government and IDRC funds can cease after one or two years. For regional centres (e.g. AGRIS Latin America) the source of long term funding is not so clearly defined; they could eventually continue with the sole support of member governments, or they could disappear altogether if national centres become strong enough to do without them. For specialized information centres (e.g. Cassava Information Centre) the situation is not clear at all. They are not established primarily to aid the parent organization but to serve an international clientele, many of whom can never afford to pay cost recovery prices for services. The problem of continued funding is, therefore, intrinsic. In some cases (e.g. Cassava Information Centre) the parent institution eventually takes over responsibility and becomes a channel for donor funds. In other cases, IDRC takes a Micawberish attitude, and even stretches it by saying that if something does not turn up, then the activity itself is not worth supporting. The Board has just begun to address this question, now that several projects have required Phase 3 grants and some Governors seem to be taking a hard attitude.

(iv) HEALTH SCIENCES

4.17 Health Sciences Division has only 12% of its budget utilized for network projects. It has formally networked few projects but often groups activities in the same field under the same sector of its program without any designated linking mechanism. Where such links do exist they tend to be more of the SS type, although some networks, such as that concerned with Wastewater Management, also parallel the AFNS (vertically integrated) approach in certain respects. One of our case studies looks at a series of related HS projects in Latin America (Primary Health Care) which the Division has not tried to relate and does not regard as a network, even though this group of projects has many of the elements,apart from a coordinator, that are common to the eleven other networks that were studied.

B. Types of Grantee Institutions

4.18 The type of institution in which network projects are located has implications in terms of both research and development. In most developing countries the universities are better staffed to conduct research than are government organisations and parastatals. However, in many areas of the world the relationship between the university and the government is an uneasy one and, although the university may be the most appropriate institution in which to place important research, by locating it there the utilization of the research findings may be limited.

4.19 Government departments are often weakly equipped in both physical terms and conceptual outlook insofar as research is concerned and, for political reasons, they may have a

rapid turnover in personnel. However, by having very direct links to extension services and policy-making planners, their research tends to be policy oriented in terms of national goals and their findings are often more readily channelled into programs destined for the more needy sectors of the community.

4.20 Thus research at private institutions and universities, which has figured prominently in Social Sciences Division projects, may tend to result in an excellent piece of work whose application may be hard to implement (e.g. Population Distribution Policies and Public Sector Salaries in Africa), whereas agricultural research, carried out in government institutes, may be of lesser quality but be capable of attracting attention from politicians and policy-makers (e.g. IDRC support for a forestry project in Senegal and for cassava outreach in Brazil both resulted in strong government interest and support long before meaningful research results became available). However, agricultural projects in general are probably easier to disseminate than are projects in other sectors covered by IDRC since agricultural extension is itself a recognised activity in most LDC's.

4.21 Some networks (e.g. STPI, TECHNONET, Cassava) contain a mix of different types of institutions. The Cassava network focusses its field work on strengthening national agricultural research institutes but has a strong back-up from the International Centre for Tropical Agriculture (CIAT) in Colombia. It also has a number of linkages to

academic institutions in both developed and developing countries. Such institutions are contracted to provide basic pieces of information which service the applied field operations.

4.22 A number of IDRC staff, especially in AFNS and IS Divisions, are concerned about the extent to which IDRC projects are implemented through international institutions. On the one hand such institutions have the infra-structure and facilities to make it easy to use them as a regional servicing centre. On the other hand these institutions often tend to be luxurious and are staffed to a degree that they resemble developed, rather than developing, country institutions. Their efforts to stress their international status and perquisites often make them expensive to utilise. Their staff are not always of higher quality than national program staff although their terms of service may be much better. Thus, while the ability to link with institutions such as SEARCA, IICA and the CGIAR Centres has undoubtedly facilitated the development of big and impressive networks in AFNS and IS, this approach has channelled more funding to the already well endowed, and many IDRC staff question its cost effectiveness.

4.23 Nevertheless these international type institutions do have a mandate to conduct activities on a regional or global basis,they are usually well-staffed on the financial, administrative and public relations sides and submit properly presented accounts and well documented reports. IDRC's Treasurer's Office usually finds these much more

acceptable than the type of accounting and reporting put out by the weakest of the developing countries where the material may have to be prepared by someone for whom English or French is not a first language and whose training in accountancy may not exceed an elementary bookkeeping level. So 'glossy' networks with 'prestigious' partner institutions may have administrative advantages, especially in networks where large sums have to be disbursed, but they do not necessarily have an impact on the most needy sectors of the LDCs.

4.24 However, the Team feels that the nature of the grantee institution in terms of its cost effectiveness is not an issue that is exclusive to networks, albeit that where regional and international institutions are concerned they do tend to have a multinational nature that makes them attractive for a network involvement. But we have not been able to identify any aspect of grantee institutions that relates solely to networks as opposed to discrete projects and it does not appear to be a specific issue for this report.

C. Coordination

4.25 IDRC was created with an extremely broad mandate and the actual project portfolio that it has developed appears to have resulted very largely from the specific activities and interests of the program staff. Some early programs arose from the direct intervention of IDRC's then President but most of the current program has arisen as a consequence of the annual program statements prepared by the four program

directors in consultation with their senior staff. In the main, senior program staff have been recruited to work on specific areas identified by their directors. There are about 40 senior program staff, many of whom are specialists in discipline-oriented fields. Thus a significant part of the overall project program of the past decade can be related to 60 or 70 individuals, either formerly or currently on the program staff.

4.26 Since program officers prefer dealing with projects related to fields in which they have professional expertise, it is not surprising that such a large portion of IDRC's project portfolio can be classified into the type of package that we have defined as 'networks'. However, the extent to which program officers and their directors identify these packages as 'networks' and 'interrelate' the activities within each program package varies widely, not only from Division to Division, but also from individual to individual. Where such relationships do occur they involve a range of linkage mechanisms.

4.27 The most important of these is that of some form of coordination activity. This may entail a linkage, not only in the research work, but also in the development of people and institutions. Effective coordination implies regular visits to all network participants by the coordinator. It is both a time consuming and a costly task when carried out conscientiously. A number of program staff who we interviewed felt that IDRC needed to address itself more openly to the question of the cost and time involved in

effective network coordination.

4.28 We have also discussed this with a number of recipients in network projects. Most of them were very appreciative of visits both from coordinators and from program staff. But several criticised IDRC staff for not spending more time with them discussing the research activities of their programs. Many recipients felt that too much of staff visiting time was taken up by administrative matters at the expense of research activities.

4.29 Program staff were sympathetic to this viewpoint but pointed out that they already carried extremely heavy travel loads. It is not unknown for a program officer to be responsible for 20 or more projects and to have another five to ten in the process of development. In the early days of IDRC's existence most program staff tried to visit every project with which they dealt at least once a year, but in many cases this is now impossible. This problem appears to have been exacerbated by a considerable deterioration in IDRC staff travel privileges. Several program officers expressed the view that they were reluctant to become more deeply involved in networks as opposed to individual projects because the effective management of networks imposed an impossible work and travel load on them.

4.30 Program staff were highly critical of the importance attached to a 'low management cost' profile by IDRC's administrators. It was pointed out that Divisional management costs are kept artificially low by hiring network coordinators through project budgets rather than as staff members in

IDRC Program Divisions. This approach does not closely identify the coordinator with an IDRC career structure nor does it mean that he is a person who is regularly invited to IDRC staff meetings. Thus, such coordinators tend to be part of IDRC and yet not part of it and the experience and knowledge that they gain is not contributed to IDRC's permanent pool of expertise, (although in the case of the Waste Water network IDRC did subsequently hire the coordinator as a program staff member). Such coordinators also suffer from the disadvantage that they are usually not familiar with IDRC rules, style and philosophy and they have limited direct authority or power to give direction. They do however, contribute a level of expertise that may be difficult to find in the permanent program staff.

4.31 The dividing line between project coordination and project monitoring is not very clear. In AFNS, and to a lesser extent in other Divisions, program staff spend a great deal of time and effort coordinating and 'managing' their networks, organising the training and workshops and making a heavy input to the projects. This approach undoubtedly facilitates linkages but can be challenged on the grounds that it leads to a 'suggestive' rather than a 'responsive' network and goes far beyond the program officer's 'monitoring' role.

4.32 At the other extreme, certain networks (e.g. PLAMIRH) have been run virtually entirely by the national participants with very little involvement by IDRC other than having an observer at annual advisory or coordination meetings.

Such networks do, however, build up research and institutional capacities in the grantee institutions, especially if the coordinator is a permanent staff member of that institution. They also represent only a limited work load for the responsible program officer.

4.33 In between these two extremes of totally internal and totally delegated coordination we find the situation that occurs in a number of large and important networks which are run by full or part-time coordinators (TECHNONET, STPI, Public Sector Salaries, Forestry (Africa)) who are not IDRC staff but who are employed by IDRC as network coordinators. In these networks the coordination office may represent as much as 40% of the overall budget for the network. The coordinators are usually skilled professionals hired on short or middle term contracts.

4.34 The policy implications of having outsiders, at considerable cost, to fulfil a role that does not necessarily either build up inhouse expertise or increase the competence of personnel in developing country institutions, does not ever appear to have been closely examined by IDRC and will be discussed again in our final chapter.

D. Other Linkage Mechanisms

(i) PROJECT IDENTIFICATION MEETINGS

4.35 One of the commonest linkage mechanisms used in IDRC networks is that of bringing the network into existence following a project identification meeting to which various potential grantees are invited. At such meetings it has been customary for the program officer concerned to outline

the general field of interest and IDRC's possible support role and to assist the national participants in defining the type of project for which IDRC support might be forthcoming. This type of meeting has been widely used in those Social Sciences Division networks which utilise comparative or complementary studies such as Low Cost Housing (Asia) and Public Sector Salaries in Africa. It has also been used to establish the African Forestry and Post-Harvest Utilisation networks in AFNS.

4.36 However, there appears to be some degree of difference in the way that Divisions conduct these meetings. AFNS tend to involve directors of research and to use the meeting to identify priority areas for research whereas SS meetings of this nature usually try to develop a methodology for a common approach in the field of study. One SS staff member suggested that many of that Division's networks had the following sequence of activities; (1) Project Identification Meeting - (2) Methodological Workshop - (3) Other Workshops - (4) Report Writing.

(ii) ADVISORY COMMITTEES

4.37 Networks established following project identification meetings often have some form of Advisory Committee, usually consisting of one representative from each participating unit. It is customary in many networks for this Committee to meet at least once a year and also at the termination of the project, at which time the various units' findings are presented and compared.

4.38 Some networks have another form of Advisory Committee, not comprising participants in the networks but consisting of distinguished scientists in the network's field, who provided advice on research policy. This type of Committee has been used by AFNS in their Triticale and Cassava networks. It was originally instituted to help the Division decide on priorities for the use of some CIDA-managed funds for which the demand far exceeded the supply. The approach was used later to help the Division identify relatively neglected research areas and to seek developing country institutions to conduct research in these areas.

(iii) EXCHANGE OF PERSONNEL

4.39 The exchange of personnel is common to many networks and in those studied took place in the Cassava, STPI, Waste Water, TECHNONET, Post-Harvest, Public Sector Salaries and Population Distribution networks. In these instances IDRC provided funding for personnel working in network projects to visit scientists in other countries working in the network or in a closely related field. Such visits have nearly always been of a short term nature and appear to be highly regarded by the beneficiaries, especially when it has enabled them to visit more experienced scientists in the network. However, although IDRC uses this practice quite widely, it does so in an 'ad hoc' manner and the procedure does not appear to have been evaluated.

(iv) TRAINING

4.40 Training is a feature of many IDRC projects and most networks lay great stress on it. Agricultural networks are fortunate

in being able to draw upon the International Agricultural Research Centres which are able to offer all levels of training from short courses for technicians to advanced post-doctoral research. The Division has often provided trainees with the opportunity to visit selected developing country research laboratories. It believes that this approach is valuable in demonstrating to young well-trained scientists from the developing world how much useful work can be done without complex equipment and facilities.

4.41 The types of training utilised by networks embrace the whole range of training activities in which IDRC is involved (which is the subject of a separate OVPP paper). The PLAMIRH project has a very heavy in-service training focus in that the whole project is designed to permit young researchers to produce small clearly defined research packages. The TECHNONET project has provided short course training for about 400 personnel as has AGRINTER which has run more than 30 courses with over 1,000 participants.

4.42 Although training is not a unique feature of network projects, the very existence of a network involving scientists in different countries clearly facilitates the opportunity for broadening the multinational basis for training programs and thus for enlarging their horizons. An excellent example of this is found in the Waste Water project where periodic training courses were conducted which involved at least one trainee from each of the projects in the network.

4.43 Social Sciences Division networks with their emphasis on the horizontal approach have attempted to use the stronger teams

to provide training, often by example rather than formally, to the weaker ones. In some horizontal networks such as STPI, the coordinator has devoted part of his time providing technical inputs to the less well endowed teams. The fact that SS projects are often located in academic institutions has also meant that the researchers themselves are often professional teachers although, of course, this situation is not exclusive to networks. However, the presence of coordinators and compositive teams and the series of workshops associated with SS networks gives the impression that SS Division network projects do facilitate training.

(v) CONSULTANTS

4.44 Closely related to the concept of training is the use of outside consultants to advise network participants on particular problems or to serve on network Advisory Committees. Some such consultants are used for single very specific visits. However, others are used on a continuing basis and frequently relate their own work and their own institutions to participants in the network. Indeed, some consultants have been used as consultants to the network rather than to specific projects. An example is the Public Sector Salaries project in Africa which was coordinated by the Institute of Development Studies at Sussex where two of the leaders from projects in the network are now studying for their Ph.D's under the supervision of former project consultants.

4.45 The Post-Harvest network has also relied heavily on a small panel of consultants who, by now, are familiar with IDRC's operational style and objectives and, in addition to providing specialised technical inputs, are often able to provide advice to both IDRC and grantees regarding linkages of potential value to the network. This broader role for consultants does not appear to have been utilised very heavily by IDRC as a whole and it appears to have some interesting implications in terms of our later discussions on Canadian linkages.

4.46 Another potential way of using consultants, which has been utilised in only a few networks, such as Population Distribution and STPI, is that of having a team member from a strong group in the network acting as a consultant to a weaker group in the network. There is scope for further activity of this sort, which not only helps in personnel development but can be very cost effective.

4.47 This link between consultants and training has also resulted in some academics from the developed world spending sabbatical periods at the developing country institution from whence trainees sent to them from network projects came. This not only increases the exposure of the trainees to the consultant but also helps to broaden the consultants horizons and to increase his value to IDRC.

(vi) WORKSHOPS

4.48 Another linkage which features prominently in many IDRC networks is the use of workshops. IDRC workshops generally involve groups of 15 to 30 people rather than being large

international gatherings. The groups take various forms. Sometimes they are little more than annual meetings of project participants. On other occasions they also involve some distinguished outsiders, who are able to give orientation to the group,and also some younger scientists not yet formally associated with IDRC but whom program officers have identified as being potential grantees.

4.49 In general, workshops discuss project progress, compare research findings or prepare 'State-of-the-Art' reviews out of which projects priorities can be justified. In Health and Social Sciences Divisions, workshop proceedings tend to be published as one-off documents. In AFNS there has been a tendency for the major program areas to publish a series of workshop publications. In SS termination workshops are frequently used to set the framework for final project reports.

4.50 AFNS networks have used workshops as a key linking mechanism to bring together researchers from different projects in the network. Most of the workshops have been located at major national or international institutes in the network. Many of the participants have come from the region in which the host institute is located but in most cases two or three invitees have also come from each of the other two main regions. When workshops are held at one of the CGIAR institutes network trainees and visiting scientists are also involved in the workshop. Each workshop participant is expected to 'work' by giving a paper, opening a discussion, drafting the

report or chairing a session. Each meeting report is expected to present written conclusions and recommendations for further research.

4.51 The emphasis on workshops as a long-term linking mechanism is particularly strong in AFNS. In some IS networks such as AGRINTER, workshops are also used as a long term consultative mechanism. In many other networks workshops primarily represent a project identification activity a form of annual review or a one-off training exercise.

(vii) PUBLICATIONS

4.52 Many of IDRC's networks use workshops and publications as dissemination media and in this way the findings of networks are brought to the attention of other scientists and agencies interested in the subject theme. In this sense few of the networks that we have looked at appear to be 'closed' to the outside world and most of them do attempt to relate their findings to interested parties. Many IDRC publications are widely circulated with print-runs of over 3,000 copies being common. However, it is still not uncommon to find that people intimately involved in a subject closely related to an IDRC network are unfamiliar with the network's publications. It would appear that identifying the appropriate clients for network publications is a difficult and highly personal task which is fulfilled with widely differing degrees of success in different networks. The extent to which institutions within each network see each other's publications appears to be highly dependent upon the individuals con-

cerned as well as the network's coordination.

4.53 IDRC is publishing in such a broad field that the establishment of appropriate distribution lists has become an unwieldy task. Many publications are colourful and attractively presented but it is difficult to assess how much impact they have and what is the specific value of individual publications. Indeed publication policy appears to be a subject worthy of a lot more study.

4.54 The Team also has some concern about the effectiveness of the mechanism for disseminating project results. Whilst this concern is not exclusive to network projects it is particularly relevant to any discussion on them because of their magnitude in IDRC's project portfolio. It is, perhaps, rather naive to assume that the publication of results is all that is necessary to disseminate network results. Some projects do not even reach the dissemination process and are budgeted only to do the research itself. It appears that not nearly enough is known about how to communicate research findings to potential users in developing countries. This raises the interesting issue which we will refer to in our final chapter as to whether IDRC itself could or should get much more heavily involved in supporting research on the communication of research findings.

4.55 Another matter in which IDRC may wish to consider becoming more active relates to the development of bibliographic files for important networks and the provision of a base

package of appropriate publications by IDRC for network teams. In some fields, especially agriculture, this is facilitated by the support of IS Division for documentation centres linked to AFNS networks and to AGRIS (including AGRINTER). But in Health and Social Sciences the IS program has not had an AGRIS and CGIAR Centres to link onto (although DOCPAL provides an exception to this generalisation).

E. Links to the Outside World

4.56 IDRC appears to have tried very hard to create an identity for itself and (apart from IS Division) has limited its involvement with the United Nations family of agencies who receive direct support from Canada through the multilateral program of CIDA. It is possible that as a result of this, IDRC may have isolated itself from some major existing research networks. It is also possible that this isolation is justified in terms of IDRC's attempts to be innovative. On the other hand, IDRC is somewhat unique, for a relatively small donor agency, in that it is discipline-oriented but contains, within its organisational structure, Program Divisions which are not commonly found in the same small agency. Furthermore, it has no specific country target or mandates and it is able to process grants more quickly than most donor agencies.

4.57 Taken together these factors mean that IDRC has a great deal of flexibility, although this does not necessarily imply that it should not move in areas where existing agencies are active. However, the question does arise as to whether IDRC networks would have a broader impact were they to

build on and strengthen existing non-IDRC networks. In this sense we have, in the final chapter of this report, raised the issue of whether or not IDRC should gear its network strategy more towards increasing the efficiency of certain existing network type activities rather than in giving as much emphasis as it does to innovation and originality.

4.58 However, our examination of the networks that we have studied certainly does not point to any tendency for these networks to be inward-looking. In most of them the network participants have been keen to share their experiences and results with other agencies. The real issue relating to the outside world is not that of networks being exclusive but of how certain networks might be supported by the outside once IDRC inputs cease (see Chapter 5).

F. The Canadian Connection

4.59 In its terms of reference the Team was asked to 'assess the extent to which (IDRC) networks encompass scientists and institutions in Canada and other industrialised nations.' The degree to which developed country scientists and institutions have been involved in most of the networks appears to have been very limited notwithstanding the fact that IDRC's mandate enables it 'to enlist the talents of natural and social scientists and technologists of Canada and other countries'.

4.60 Such scientists and technologists have been used as consultants in Forestry (Africa), Post-Harvest (Asia), Cassava, TECHNONET, AGRINTER and, to a lesser extent, in other networks. However, only in the TECHNONET and Cassava networks have

formal links been established with Canadian institutions to which direct funding was channelled. In addition, on a much smaller scale, the Public Sector Salaries network also provided monies to Sussex University as a network component and for coordination activities.

4.61 In the case of TECHNONET the Canadian link was a contract, initially for 5 years later extended to 8, for an input via the provision of technical services from the Canadian National Research Council who supplied two scientists to work full time on the project in Canada. These scientists responded to requests from developing countries in general, not only to those associated with TECHNONET.

4.62 The Canadian linkage in the Cassava network was unique and, apart from a parallel link in the Triticale network, has not been repeated. In this case CIDA sub-contracted to IDRC the management of a cassava program with $2.5 m. destined for CIAT and $0.75 m. (later increased) for Canadian institutions to conduct basic research to backstop the CIAT program. IDRC subsequently supported a further component of about $4 m. for cassava research in developing countries and gave additional support to CIAT for the training and coordination of network activities. It also provided limited support to Canadian institutions to complete or expand work which was in progress under the CIDA grant when this source of funding expired.

4.63 In both the TECHNONET and the Cassava projects the Canadian component has been productive in terms of scientific input,

training developing country personnel and the creation of an awareness of developing country problems in Canada. The reason why this type of link with Canada has not been utilised more widely appears to be twofold. Firstly, in some networks (such as Primary Health Care, Low Cost Housing, Population Distribution Policies) it is hard to find appropriate expertise in Canada, indeed such expertise as does exist is found mainly in developing countries. However, in addition to this and, notwithstanding the impressive results and acceptability overseas of the Canadian linkage in TECHNONET and Cassava, there has been a deliberate policy on the part of both IDRC and CIDA (who initiated the Canadian link in the Cassava and Triticale networks) not to fund Canadian institutions to specifically enable them to associate with IDRC funded research projects overseas. This was an early IDRC policy decision which has remained unchanged (although changes are now under discussion) and to which we will address ourselves more fully in the final chapter.

V. TERMINATION

A. Temporary and Permanent Networks

5.1 Some networks were never designed to be permanent activities. Thus amongst the twelve that we studied, STPI was set up originally as a 'self-destructing' activity; Low Cost Housing in Asia,Waste Water, Public Sector Salaries and Population Distribution Policies were initiated as one-off efforts, and Primary Health Care was never formally regarded as a network.

5.2 In contrast to this, AGRINTER and TECHNONET were established by IS as networks that would have a permanent existence. In both cases IDRC provided the funding to develop the methodology and to demonstrate the value of these innovative activities. In the case of AGRINTER the network was planned to be phased into IICA's program and this is being done without too many problems. With TECHNONET it was hoped to hive off the network, but the mechanism for actually doing this was not established when the network was created and, as we will discuss shortly, this has led to problems.

5.3 No clear policy with regard to phasing out or termination appears to have been adopted in the PLAMIRH or the three AFNS networks. More by accident than design the Cassava network has been phased into CIAT's program. At the time of writing the PLAMIRH network is still seeking a sponsor. The Post Harvest and Forestry networks are still a long way from termination and the grantees in these fields are likely to need assistance for some years. In the Post

Harvest network a multi-donor approach provides some buffer against sudden termination. The African Forestry network was originally designed to be a precursor of possible ICRAF activities but, given the current status of ICRAF, this now seems questionable and the future of the network, which is still at an early stage of its development, is not easy to foresee.

5.4 To a certain extent the life-cycle of networks and the projects in them appears to be determined by the size of the budget or the availability of funds rather than in terms of the time that it would take to reasonably achieve the original objectives. The required life span is not always easy to identify at the inception of a network when the performance of its individual components is difficult to predict. However, very few policy guidelines have been given to IDRC staff in terms of the duration of support that is considered suitable for particular types of activities. Nor do there appear to be any clear guide lines relating to policy regarding <u>one-off</u> versus <u>permanent</u> networks.

5.5 To illustrate the problems encountered at network termination we will briefly discuss this in relation to four important networks:

(a) PLAMIRH - whose termination was not clearly defined when it was set up and whose success has led it to seek a sponsor.

(b) TECHNONET - which was planned to be handed over, but in an undefined way which has taken some defining.

(c) Cassava - whose termination was never planned and which appears to have been the subject of a phased and harmonious takeover by a CGIAR Centre.

(d) STPI - which was planned as a one-off project.

2. PLAMIRH

5.6 The PLAMIRH network was set up on a trial basis for two years and then extended for four more. The network consisted of a series of mini projects organised by a small secretariat financed by IDRC and Ford Foundation. It was an innovative and creative project of benefit to a large number of Latin-American scientists working on the physiology of reproduction. When the termination of Phase 2 of the project was imminent the scientists in the network expressed their dismay about the likely cessation of the funding even though it had been announced to them in advance. After a great deal of discussion the project is being considered for a third phase. The secretariat has been told that during this phase it will be their responsibility to identify future sources of funding.

5.7 The personnel constituting the secretariat and management committee for this project were originally identified on the basis of their scientific knowledge, with the hope that they would establish PLAMIRH on a sound financial basis. However, the mechanism for doing this was not defined. It seems that the question was never really asked as to whether

IDRC ought to create a new institution without first clearly defining what would happen to it if it proved to be successful.

5.8 We may question the logic of getting involved in this sort of activity in the first place if it is not to be established on a permanent basis. We can also ask whether right from the outset of the network some thought should not have been given as to whether it might have been linked to some form of international institution which would have been able to continue it on a permanent basis, rather than creating a national group to be responsible for the network's management. We very much favour the latter strategy for a temporary network since it is relatively inexpensive and increases national research management capability. However, for a network designed to be permanent it begs the question of who will provide permanent funding.

5.9 A discussion on the permanence of PLAMIRH also raises the question as to how support for this network differs from the support that IDRC has been giving for a number of years to the International Foundation for Science(IFS) in Stockholm which distributes research grants of less than $10,000 to scientists working in certain specifically defined fields. For several years IDRC has handed a grant over to IFS, it has no say in the selection or supervision of the research and the donor credit goes to Sweden rather than to Canada. In the case of PLAMIRH there is a much stronger Canadian identity but, as a matter of policy, the whole operation is

run by a local secretariat. This example, illustrates the lack of consistancy in IDRC's policy towards networks and the need for some clear guidelines, especially with respect to the policy towards the duration for which networks should be supported.

C. TECHNONET

5.10 TECHNONET presents another case where termination has presented problems, although in this case the project's success has generated interest amongst other international agencies so that IDRC has been able to partially phase out with CIDA and participating organizations now absorbing two thirds of the costs of Phase 3. Once again, however, the subject of termination does not really appear to have been well thought out when the project was established. It appears to have been assumed that someone would take over TECHNONET if it was a success, but it has taken some time to bring this about even partially. The cost of the network is such that its full support would certainly present problems to national agencies. Here again we may refer back to the earlier discussion on the possible need for a closer relationship with international organisations who are in a position to maintain a permanent relationship with what were previously IDRC networks but are intended as permanent activities.

D. CASSAVA

5.11 In the case of the Cassava network, a Divisional policy paper was prepared on this issue some four years ago in which it was proposed that this network, which commenced

in 1971, should be largely phased out by the mid 1980's. At the present time the Division appears to be interested in limited extensions for certain of the larger projects of the network and to be focussing new network activities mainly on small projects in African countries.

5.12 However, most of the leadership in the network now comes appropriately from CIAT and (to a lesser extent in Africa) IITA, two International Centres with multimillion dollar budgets to carry out research and training in a field where IDRC pioneered research support. Clearly with the massive ongoing programs in these two Institutes, which have been generously supported in the past by IDRC (using both its own and CIDA funding) it is highly logical that network leadership should have passed to their hands. IDRC is, however, maintaining its link in a low key and inexpensive way by continuing to support workshops on problem issues and 'State-of-the-Art' reviews relating to Cassava.

5.13 A similar situation relates to a number of other AFNS networks related to CGIAR centres such as Sorghum, Multiple Cropping and Triticale in all of which IDRC initiatives have been taken up and exploited by well staffed and funded International Centres.

5.14 A logical consequence of this strategy is that there will be a need to identify new fields of endeavour to replace those networks which have utilised a substantial part of both AFNS and IDRC funding over the past decade. However,

as already mentioned, a number of experienced program staff have reservations as to whether similar types of networks could be successfully established in the future, given the existing staff workload and travel limitations.

E. STPI

5.15 The STPI network was established as a self-destructing one in which the publication of the results would conclude the activities of the network, but at the end of its alloted time span it ran into two problems. First, a number of participants had trouble in meeting deadlines and finished after the scheduled termination date. Partially as a result of this, and partly because the problem had not been foreseen, a Phase 2 project was approved to prepare and organise the dissemination of the results, without which the projects' findings might never have been either written up or discussed. A series of publications and regional workshops were organized and the results widely disseminated. The feedback from this was apparent in the influence that the network's findings had, not only on national policy in countries such as Colombia and Mexico, but also in the influence that the network participants had on the recommendations of the Group of 77 at the 1979 UNSTAD meetings in Vienna.

5.16 This highlights the importance of the issue of dissemination as an integral component of network strategy. It also emphasizes the importance of conceptualising just what and how a network should have achieved by the time of its completion. If the network was intended as a permanent activity

the mechanism for establishing such permanence also needs to be identified when the project is being planned. These two points regarding dissemination are of sufficient importance that we will return to discuss them again in Chapter 7.

VI. THE VALUE OF THE NETWORK APPROACH

A. Networks versus discrete projects

6.1 One of the questions that we have addressed ourselves to is that of whether networks are preferable to individual projects as mechanisms for the attainment of IDRC's objectives. The extent to which networks feature in the Centre's activities would suggest that the Centre's Management (with some degree of dissent in HS division) look favourably on a network approach.

6.2 Some of the disadvantages of the heavy emphasis on networks are that:

(a) it tends to make the Centre more 'suggestive' than 'responsive' in its project portfolio;

(b) it limited the funds available for projects that do not fit into a network;

(c) by spreading funds through many countries, it limits the Centre's ability to develop the overall research infrastructure in a limited number of countries by focussing on them in depth (this is not an official IDRC policy but is an approach which appeals to a number of staff);

(d) it leads to a very heavy and costly coordination workload, which, to keep central management costs down, is often allocated to a contract employee in a manner such that the expertise gained by the coordinator is not retained either within the Centre or by the LDC institutions involved in the network;

(e) in many cases networks involve the better developed of LDC institutions and/or regional and international institutions (which often play a coordinating role) to a much greater extent than they involve institutions in countries where the research structure is most in need of help, thus networks may help to widen the gap between strong and weak research institutions in the LDC's.

6.3 There are also advantages to networks some of which are that:

(a) they increase the contact between scientists working on similar problems in LDC's whose main external contacts have hitherto often been with colleagues in the developed countries where they received advanced training rather than with those working on similar problems and faced with similar constraints:

(b) they encourage the development of methodologies appropriate for LDC research, often in areas where such methodologies did not previously exist;

(c) they offer opportunities for peer training by permitting groups at different levels of development to meet and work together;

(d) they provide credibility in innovative fields by building up a critical mass of personnel working in such fields;

(e) they raise the likelihood of meaningful results occuring by tackling a problem on a sufficiently

large scale and with enough personnel that positive findings are more likely;

(f) by involving a large number of scientists in working on a common problem and by including in the network some leaders in the field they make the publication of a worthwhile network report a feasible objective and in this way they facilitate the dissemination of results from the network;

(g) although their administration may be costly, networks lend themselves to some form of coordination mechanism which can be advantageous both to the individual projects, in terms of regular visits and advice, and to IDRC, in terms of in-depth management of a group of projects.

6.4 On balance the Team feels that the network approach is advantageous to both IDRC and recipients, particularly since it is utilised in a flexible way. We do not think that more rigidity would be advantageous since every country and recipient institution has its own special characteristics. Indeed the Team has noted the problems with which SS were confronted when trying to standardise methodology.

6.5 Several senior staff members, especially in Regional Offices, have suggested to us that IDRC should have a greater network emphasis but that this should be regionally focussed and managed. This is an interesting idea but the Team would hesitate to recommend that networks should be exclusively Regional, this would certainly not be welcomed

in AFNS although even there we note the existence of regional networks (e.g. Post Harvest (Asia)) within global programs.

6.6 The Team has noted that very few networks include activities of more than one IDRC Division and where this does occur it is usually IS providing a documentation link for AFNS commodity networks. In view of the emphasis being given to the rural sector by IDRC and since at the rural level there are often complex and important linkages between agricultural, health, educational and other activities, there would appear to be a unique opportunity here for interdivisional networks. The development of such networks would necessitate some re-organisation in IDRC's program approach since at present each Division appears to function as a virtually independant entity. This is not the most effective way of using IDRC's own human resources. We recommend that IDRC should establish mechanisms for encouraging and for coordinating interdivisional multi-disciplinary networks. We firmly believe that the Centre should become involved in such projects.

6.7 Although the Team feel that the network approach is useful it would not recommend that it should be exclusive. Discrete projects clearly have a role to play and should continue to be identified. The precise balance between them and networks is probably best decided at the management level and is a question of the appropriate utilisation of Divisional manpower in order to complement the Division's approved program of work.

we do not recommend that IDRC should try to quantify the budget allocated to networks.

B. Networks in relation to IDRC's Objectives

6.8 The advantages and disadvantages of the network approach can also be looked at against a background of what individual IDRC projects have as their main goal in terms of:

(a) strengthening research institutions;

(b) developing human resources

(c) attaining research results; and

(d) providing information for policy makers.

6.9 Such an examination suggests that the relative importance attributed to any one of these four objectives varies quite considerably in different networks and it does not appear that the network approach has particular advantages or disadvantages in respect to any specific objectives.

6.10 For example, the prime purpose of the TECHNONET and AGRINTER networks is that of building institutional capacity and the same role figures very prominently in the African Forestry network at this stage of its development. In contrast to this there is little in the way of an institution building role in the Public Sector Salaries and the Primary Health Care networks, nor does this figure prominently in the Waste Water or STPI ones.

6.11 The development of people is an important objective of every network that we looked at, as without stronger personnel it is not possible to do better research, build

institutions or provide appropriate material for policy makers. In certain of the networks, however, increasing scientific capability featured particularly strongly. Good examples of this are PLAMIRH, Cassava and Primary Health Care.

6.12 Although all IDRC projects are related to research, the degree to which research features in the output is very largely a function of the strength of the institution and its researchers. The research output featured prominently in the STPI, Waste Water, Population Distribution Policy, PLAMIRH and Cassava networks but was of less significance in the TECHNONET and AGRINTER networks and also in the African Forestry one where the research experience of the scientists involved is only limited.

6.13 Since IDRC is concerned with development, all of its networks should have some implications in terms of development policy. Some, such as Low Cost Housing in Asia and the Port-Harvest network, can expect their output to have considerable importance since their activities relate to fields in which regional planners are very active, whereas others such as PLAMIRH and AGRINTER relates less immediately to the activities of national policy makers.

6.14 In general terms Information Sciences networks appear to give a key role to institution building (i.e. strengthening existing institutions). AFNS networks focus on institution building in the least developed countries and research in the stronger ones with human resource development featuring

strongly in both instances. In policy terms AFNS tends to follow the planners in that the policy to support a certain agricultural commodity or approach is usually made before IDRC provides support for research in that field. In Social Sciences IDRC supported research tends to relate to both people and institution building. In many instances this work precedes any policy decisions at the national level and is carried out in the hope that a long term spin-off from the research will be to influence development policy.

6.15 We consider that all of these approaches have merit and that their individuality, and the flexibility in IDRC's approach that this manifests, is a positive feature of IDRC's approach and a reflection on its professionalism. It would, in our opinion, be unwise for IDRC to exclude from its portfolio any of the four objectives that we have examined although it may be a matter for policy consideration by the Board to discuss whether the current balance in emphasis is appropriate.

6.16 A number of program staff have expressed the view that in the least developed countries the institution-building role is of particular importance. This may entail the development of administrators and finance personnel as well as scientists. The view has also been expressed to us that many project summaries presented to IDRC's Board are totally unrealistic in their statement of project research activities given the capacity of the institutions in which the work is to be done. In such circumstances it would be more appropriate were project summaries to state more specifically

that the prime role of the proposed project was to strengthen the research and management capability of an institution in which sound research might be undertaken five or ten years hence. On the basis of the case studies that we have examined we have the impression that this type of activity would require IDRC support for a period of at least ten years before any real pay-off could be expected in many LDC institutions.

6.17 Such a period of support would also require some shift in current IDRC policy which features research more strongly than institution building. But, perhaps, now is the appropriate time to consider such a change for, whereas IDRC broke new ground in 1970 in sponsoring LDC research, there are now agencies in several countries (e.g. Australia, Denmark, Japan and Sweden) which fulfil a similar role. IDRC's experience, particularly from network studies, seems to indicate that it is not necessarily the research itself so much as the adequacy of the institutional infrastructure in which research can be carried out, that is the most important area where development assistance is needed in many LDC's.

6.18 Although emphasis on institution building would represent a shift in program policy it seems important to stress that IDRC's mandate is not limited to the 'project' focus which dominates its current activities. The Centre is charged (para 3.4) with 'assist(ing) the developing regions to build up the research capabilities, the innovative skills and the institutions required to solve their problems'. The Team

feel that this last task has been under-emphasized and requires more attention, especially in the least developed. Possibly a closer working relationship with CIDA, who are better equipped to fund physical facilities, might help in this context.

C. Institutional Strength and Network Success

6.19 The question of the level of capability or strength in grantee institutions is important in terms of network projects. There appears to be a bias in project development towards working with the better endowed research groups in developing countries. This view is supported by an examination of the number of IDRC projects, particularly network activities, found in countries such as the Philippines, Thailand, Kenya and Colombia. Part of this bias may be attributable to the location of Regional Offices or to the nationality of their staff, and part to the extent to which English, French or Spanish is spoken. But this may be of less importance than the presence of highly organized and articulate groups in these particular countries.

6.20 There are few network components in countries such as Haiti, Honduras, Burundi, Niger, Nepal or Papua/New Guinea. In such countries there is a limited number of trained personnel, limited ability to formulate projects and limited experience in preparing the sort of narrative and financial reports required by an organisation such as IDRC. There is also limited absorptive capacity so that usually only small projects are feasible, unless there is an expatriate 'advisor' element. A network activity in these less

well-endowed countries entails more effort in terms of coordination and greater risk in terms of successful achievement. Against such a background there appears to be a tendency on the part of IDRC to provide only limited assistance to institutions in such countries.

6.21 The subject of the strength or weakness of an institution has a number of facets. These run much deeper than the degree of competence of its scientists and administrators. In particular, they relate to the degree of bureaucracy or flexibility in the prevailing system. Some countries tend to have an extremely rigid bureaucracy in which IDRC's style of operation does not fit very readily. Sometimes bureaucracy stems from colonial systems established to discourage corruption by having a complex chain of checks and counter checks. Sometimes the western concept of what is honest or dishonest does not necessarily comply with the prevailing system. Thus the practice of 'topping up', which IDRC uses only reluctantly, is a fundamental part of the complex normal personal emoluments system in Indonesia.

6.22 A country lacking many trained personnel, with a complex bureaucracy and different sets of 'integrity' values to those of Canada may not necessarily be the most attractive country in which to work, even though the needs of its rural poor are as great as those anywhere. Such countries may get short shift in IDRC networks unless IDRC is prepared to devote considerable time and effort to establishing a dialogue to try to effect a compromise with IDRC's own rules and regulations.

6.23 Some discussion has already been devoted to the question of the weakest countries and institutions being those in need of most help. In contrast to this, the best endowed of the LDC's are usually the ones that get the most aid projects. This, in itself, may present a problem in that the best scientists in the developing world are often overloaded with projects to which they give little more than their name while they jet from one international committee or meeting to another. IDRC would not seem to be blameless in this respect and a glance at project and network leadership suggests that it has not always been free from supporting elitism.

6.24 Another problem associated with the least developed countries, and of significance in the STPI and Public Sector Salaries networks is that these countries often have problems in meeting the completion dates for comparative studies. In the STPI and other horizontal networks this has penalized the stronger research teams when they required funding for a Phase 2 which was difficult to initiate while some components of Phase 1 were not completed. This is another reason why program staff are cautious about incorporating very weak units into network projects, even though such units may benefit considerably from working alongside stronger ones.

6.25 This situation may be symptomatic of a problem within IDRC with regard to facing up to the risk of failure if the Centre is to work with those institutions and organisations

most needy of strengthening. This is reflected by an examination of project summaries. Few of these spell out that a project is being carried out in an important but needy group whose lack of experience and administrative support implies that there are significant risks of the project being a failure. Many project summaries read like consultancy firm tenders and stress the strength of the recipient institution. We may pose the question as to whether such institutions should be the prime clients for IDRC support. This observation is clearly relevant to project support as a whole and not just to networks. We highlight it here because the balance between strong and weak recipients has been brought out to us very clearly when looking at results from past network activities, particularly in those horizontal-type networks where efforts to include weaker participants have presented major administrative problems in obtaining timely IDRC support for a Phase 2.

6.26 We recommend that IDRC should devote more of its budget to high risk projects in needy institutions. We believe that one way of lessening some of the risk in such projects is by having them as parts of networks in which they will get repeated exposure to other LDC scientists. For this to be done successfully, IDRC will need to develop a mechanism whereby delays in conducting research, and in reporting, by the weaker components of a network do not penalize the units which do meet deadlines and schedules.

D Networks in relation to recipients needs

6.27 From the standpoint of the recipients, network projects seem to be well received. A particular attraction of them is the opportunity that they present for dialogue with scientists working on similar problems in institutions with similar constraints. This facilitates the development of an indigenous research philosophy which many LDC scientists, especially in the biological fields, often have difficulty in establishing, especially if their own training was in a well equipped foreign institution.

6.28 The opportunities which workshops present for participants to visit other locations, meet scientists and present papers is also an attraction of the network approach, although the discipline imposed in meeting deadlines sometimes presents a problem. Reports from workshops are often put out by IDRC as high quality publications and the opportunity to contribute to these, presented by involvement in the network, is also welcomed.

6.29 In most IDRC projects coordination and monitoring visits are much appreciated. As already mentioned, many grantees complain that they do not get enough of them. Network coordinators appear to fulfil a valuable role in this respect particularly with regard to the less experienced members of the network team. Because coordinators move from project to project they are not readily involved in the day to day responsibilities of individual projects, which the recipients themselves have to manage. However,

through correspondence and short intensive visits coordinators are able to play an important role in orienting the research and advising on the methodology and analysis of results. In some networks this is also done by consultants, as already mentioned.

6.30 We have been able to identify three disadvantages which recipients perceive in the network approach. Perhaps the best known one is that stronger recipients feel that their progress is slowed by being in a team with weaker groups. Whilst there may be an element of selfishness in this attitude it is of undoubted importance in that no institution wishes to have gaps in continuity of funding research or personnel as a result of factors outside of its control. We have commented on this point elsewhere in suggesting the need for IDRC to be more flexible in handling continuity and Phase 2 projects in horizontal networks.

6.31 A second complaint about network projects relates to geographical and, perhaps, ethnic sensitivities. Africans sometimes see little to be gained by being part of a network including Asians and Latins. Latins may feel that there is little of merit in conducting comparative studies with Africa. Many grantees appear to be unhappy about being 'coordinated' by someone based in another developing region. The Team feel that such complaints may be valid on an individual basis and certainly from the administrative standpoint there is much to be said for regionalising networks. However, it is probably unwise to generalise and to say that nothing

can be learnt by one institution from institutions in other regions. Indeed in the STPI network the teams were very strongly in favour of cross continental links. The development process is so dynamic and subject to so many variables that the sharing of experiences relating to common problems can rarely be a wasted exercise.

6.32 Grantees are conscious of the effort that IDRC puts into planning, organising, managing and financing its networks. Many of them feel that the networks represent tangible achievements of lasting benefit to the LDC's. They are often reluctant to see networks terminate, feeling that a worthwhile concept is being destroyed. This attitude may be a reflection of the popular tendency of LDC's to create private sector groups which are less beaucratic than most LDC institutions. These groups often possess some form of secretariat (which may coordinate a network as do CLACSO,ADIPA and PLAMIRH) and they act as focal points for the receipt of foreign donor funding, without which they may not be viable. From the donor standpoint they are usually more flexible than formal institutions, are staffed by competent people and facilitate the chanelling of funds to research and development. However, the degree of permanence which IDRC should give to supporting such groups is a moot point and an issue which may well justify discussion by IDRC's Board (see para. 5.8).

VII. THE ADVANTAGES AND DISADVANTAGES OF THE DIFFERENT METHODS USED TO BUILD UP NETWORKS

A. The Individuality of the Network

7.1 One of the outstanding features of the networks that we have studied is their individuality. All of the networks contain a coordination mechanism, many of them contain a number of the linkage mechanisms that we have described but no two networks in the selection that we have studied closely resemble one another. There are, of course, IDRC networks that serve as models for others but in the main the networks are all different. This is partially a reflection on IDRC's flexibility, partially a result of its responsiveness and partially the outcome of the differing personalities of the program officers involved in developing different networks. The Team believes that the flexibility of approach shown by different networks is a positive reflection in terms of the value of IDRC projects. Nevertheless, it presents us with some difficulty in terms of discussing the advantages and disadvantages of different network approaches since each network has to be treated as a separate entity.

7.2 We have,earlier, suggested the broad classification of networks into horizontal and vertical ones. Even this classification presents difficulties when looking at an individual network in depth as we have already noted when discussing the African Forestry network (para. 4.4.).

Because of the individual nature of each network and the influence on it of the personalities involved, it appears to be extremely dangerous to try to make value judgements about most networks. Indeed our task is not to evaluate individual networks but to evaluate network strategy. In principle the broad strategies followed by each of the three principal Divisions engaged in network activities appear to be sensibly tailored to dealing with the specific problem areas with which the Divisions are involved.

7.3 We consider that there is a legitimate role for both the vertical and the horizontal approaches in IDRC's program and that each network needs to be structured to the circumstances and the problem in hand. There are individual networks in which we have doubts about the objectives and the likely value of the results. There are also networks that appear to us to reveal lost opportunities and ones that are not well managed. Little purpose would be served in naming them because;

(a) it is not our task to pass judgement on individual projects;

(b) we cannot identify any program trend or policy in these particular networks. Their weakness is a feature of the individuality that we have repeatedly mentioned;

(c) the weaknesses and problems appear to be known and understood by the Divisions responsible who are taking steps to avoid repetitions.

7.4 In discussing problem networks at the program officer level we were impressed by the openness and frankness of the comments addressed to us, many of which we had not heard before. We wonder how aware of these problems, discussed in a positive and constructive way, are the Management Committee and the Board of Governors. Much can be learned from the errors and failures of the past and could be used to help formulate better networks in the future. Unfortunately an in-house mechanism for learning from projects, outside of those immediately associated with them, does not seem to exist.

7.5 There is a need for a program of in-service training for IDRC staff, especially for administrators and young professionals. This program should capitalise on the experience of senior program and Regional Office staff and should use IDRC project material for preparing case studies in project development, monitoring and management. In this way the strengths, weaknesses and individuality of network projects, in particular, could be used to increase the competence and sensitivity of the whole Centre.

7.6 Such training would also be of value to many ongoing networks team leaders and to the potential leaders of networks in the course of preparation. It could serve a valuable role in increasing competence in research management, which is a stumbling block in many LDC institutions. Network data could provide a unique basis for this sort of training. By training IDRC's own staff alongside its current and

potential project leaders much could be gained by all concerned. The Team strongly recommends that IDRC should take early action to implement this type of training program.

B. Planning

7.7 The Centre did not begin network operations by establishing an overall conceptual definition of a network. Neither did it provide operational stipulations of the diverse network formats conceivable. Decisions to build a network project, in one way or another, were usually made without formally and precisely describing the nature of it as a research funding strategy preferable to that involved in non-network projects. Networks were created more as a result of lucid intuition than by a process of systematic design.

7.8 Our examination of networks has shown that there is a partial but frequent overlap of their characteristics which precludes any comparison based upon mutually exclusive categories. Nevertheless, there are certain features common to all networks whose comparison appears to justify examination. One characteristic that we have looked at in this context is the origin of the network. It arises as a result of either IDRC or grantee initiative or, rarely, as the result of joint action.

7.9 IDRC initiated networks, whilst involving a high level of commitment and responsibility by the Centre, risk being 'suggestive' of what the Centre wants to support rather than 'responsive' to the countries needs. This risk appears to be higher in social than in biological sciences in that, in the latter fields, priorities for research may be more

identifiable in terms of national policies. These may be fairly specific in the case of health or agriculture but often remain ill-defined or vague with respect to social goals.

7.10 Networks arising from grantee initiative obviously fit closer to IDRC's defined 'modus operandi'. Their establishment calls for less staff effort on the part of IDRC and increases the interest and committment of developing country institutions; which may ultimately account for continuity beyond the period of IDRC support. Also they obviously favour 'responsiveness' over 'suggestiveness'. The problem with creating 'responsive' networks is, however, that many LDC scientists have limited experience in defining research priorities. There may be more risk of a network initiated in response to a demand from a vociferous and well-organized LDC elite being irrelevant to national priorities than there is in the case of a network 'suggested' by an experienced program officer based on his extensive experience and travel in a region. Many young LDC scientists are much better trained in how to do research than they are in how to plan it in the context of development needs.

7.11 The issue of 'responsive' versus 'suggestive' networks needs to be evaluated very carefully when looking at their origin. The very nature of the Centre's staffing pattern imposes some degree of suggestiveness through the professional expertise available.

7.12 In the case of suggestive networks it is customary for much of the planning to be done by the Centre but in some

such networks (e.g. Post-Harvest and African Forestry and in most 'responsive' networks including many in SS) the planning stage involved a collective dialogue through project identification meetings.

7.13 When the planning mechanism excludes a project identification meeting, a clear gain is secured in terms of flexibility. The project - in orientation, content, structure and even budget - is not tied up to any definitive course of action. It can change by adding, modifying or eliminating components. But the limited degree of involvement of the grantees at the planning stage may act as a constraint to effective implementation, and later, continuity. The network may easily become dominated by IDRC and be 'ours' not 'theirs'.

7.14 The use of a project identification meeting tends to overcome these problems and to build a deeper commitment into the participating groups. However, there is still a risk that IDRC, as the funding agency, can dominate the meeting and it is also possible that this type of meeting introduces a degree of rigidity and/or of compromise that inhibits creativity and flexibility. In principle the project identification meeting appears to be a useful tool, albeit one that has to be used very carefully given the range of experience and maturity likely to be found in the groups invited to such meetings.

7.15 This discussion presents yet another example of the wealth of experience in project planning that IDRC possesses but has, as yet, not attempted to harness in an organised

manner which could both increase the planning competence of its own staff and also serve as a very necessary training role for LDC project leaders. The Team has the impression that the role of the project identification meeting is important but that the impact of such meetings is sometimes lessened through inexperience or inadequate planning by IDRC. Much could be gained by formalising an in-house sharing of experiences through the case study approach by involving in this both program staff and grantees who have experience of project identification meetings.

C. Coordination

7.16 The common link in all the networks examined is the possession of a coordinator. The one network lacking this characteristic is that dealing with Primary Health Care, which HS does not yet regard as a network. We have treated it as a network in this study as it comprises a series of related projects even though they are not formally linked. In many ways it, therefore, has the elements of a network minus the coordinator. We feel that the Primary Health Care projects, both individually and collectively, could have benefitted from a coordinator. We are convinced from this study that where related projects exist as they do in this example, it would be desirable for them to have a coordinator, to exchange information and to disseminate results so that these could be used by policy makers. To do all this the management of these related projects as a network would have been advisable. We understand that in this instance HS agree with this view and are making plans

to coordinate the Primary Health Care projects.

7.17 Coordination means the existence of some form of unit. This can vary considerably in nature, as discussed earlier (para. 3.14 d). The coordinator may be a regular or contract IDRC staff member, a person from a regional or national group participating in the network, possibly paid by IDRC to do the coordination (PLAMIRH) or an outsider working full or part-time for the network (Waste Water and Low Cost Housing respectively). The coordinator may work alone (African Forestry), be guided by an outside advisory committee (Cassava) or a committee on which each network unit is represented (STPI).

7.18 In Chapter 4 we have said something of the pros and cons of Staff members acting as coordinators. This seems to be an important issue because of the role of the coordinator in network projects and of the extent to which networks figure in IDRC's program as a whole. In view of this we have examined the extent to which IDRC has attempted to build expertise in the coordination and management of networks into either its own program or that of national organisations. Both strategies present opportunities. For example, coordination through national institutions helps developing regions spread their research capacities and innovative skills and, as a result, enrich their research institutions; these research institutions are then, not only able to participate in and absorb development research but also to, hopefully, foster cooperation among themselves to their mutual benefit.
In contrast to this the Centre, if able to draw on coordination

expertise from within its own ranks, would obviously have an enhanced management capacity and would be better able to help focus national activities.

7.19 We have already expressed our doubts about the value of subcontracting coordination to international organisations or to 'short-term contract staff' (para. 4.30). In both cases the end result is that the expertise gained by the coordination unit does not remain as a residual benefit either in IDRC or in the participating national groups. We do not feel that much value is served by using regional or international groups as coordinators, except in the case of permanent networks such as AGRINTER and Cassava, where the international institution itself is likely to remain as the permanent coordination unit. We are particularly critical of those cases in which IDRC has subcontracted coordination as a 'project' in order to avoid increasing Divisional management costs. This procedure has all the disadvantages already referred to and also gives a fictious impression of management costs.

7.20 The cost-effectiveness of using personnel on international salaries as project coordinators has been questioned by a number of IDRC staff. In some networks coordination costs up to 40% of the total project costs and a senior person as coordinator may cost, with office and travel, up to Cdn. $80,000 a year. It is difficult to rate this cost against, say, four $20,000 workshops or 3 smaller workshops with published and widely distributed reports. It is also

not easy to compare the benefits from the annual coordination cost of STPI against that of PLAMIRH, which is only 15-20% as much.

7.21 Nevertheless some broad conclusions can be drawn from looking at the coordination process. We feel that:

(a) coordination by persons from a participating institution and paid on national salary scales should be undertaken wherever possible

(b) coordination by permanent staff members on a part-time basis should be more widely considered

(c) when neither (a) nor (b) are considered suitable, a coordinator should be recruited, if possible, as a permanent Staff member rather than as a contract employee. This may mean that the person concerned has to service either one large network or more than one smaller one.

(d) Where possible, coordinators not located in Ottawa should work out of a Regional Office to reduce logistic costs and, where coordination is not a full time role, to increase their value to IDRC

(e) IDRC management should adopt a more flexible attitude towards in-house management costs, recognising the desirability of coordination being carried out efficiently and having a high cost.

7.22 As with planning and other network features, a study of the coordination process offers an excellent opportunity to provide material for in-service and recipient training of an interdisciplinary nature.

D. Other Linkage Mechanisms

7.23 Of the linkage mechanisms discussed in this report, other than coordination, the ones that are most widely used are consultants, workshops, publications and advisory committees.

7.24 With regard to consultants, the one feature that we found to be of particular interest, e.g. in the Waste Water network, was that of using a consultant to assist a whole network rather than just one component of it. In this particular network, workshops and training were both linked to a consultant from one of the stronger teams, whose own activities partnered those of the weaker groups. A number of advantages accrued from using one consultant to coordinate all activities in one aspect of the network's activities. One of these was that the consultant's expertise was used in a coordinated manner, furthermore by linking him to the whole network and using his own laboratory for training network participants he was more involved and committed. This approach seems to be an attractive concept of more value than that of using a series of separate consultants who lack continuity of association with a project.

7.25 IDRC's use of workshops has been particularly extensive in network projects. In the main these workshops involve 20-30 people and their style and publications have become a feature of IDRC's program. An examination of workshop documentation, published and unpublished does, however, show considerable variation in approach, with a wide range in the degree to which workshops are structured, planned and

organised. There is also a wide range in the quality of the resulting publications some of which are excellent whilst others are little more than 'brochures' the cost of whose publication can be seriously questioned.

7.25 It is significant, that apart from IDRC's editorial team whose experience in such matters is seldom sought, very few program or administrative staff (including the Officers of the Centre) attend workshops other than the ones that they are directly responsible for. Thus there is no-one in the Centre who knows from first hand experience how Associate Director A in SS and Program Officer B in AFNS plan and manage their respective network workshops.

7.26 We presume that many workshops are well run and useful because staff and grantees seem to agree on this and a number of publications substantiate it. But, as with the networks themselves, the individuality of the person responsible for the workshop is paramount, as is the absence of any source of internal feed-back. There is no mechanism for junior or new officers to undergo in-service training with regard to workshops before they are asked to run one. Thus it would not be surprising if the standard varies and a good case can also be made for using them as case studies for in-service training.

7.27 To a large extent the subject of publications goes hand in hand with that of the workshops, from which many network publications arise. There is no IDRC strategy with respect to network publications. The Communications Division is a Service Unit which publishes what the other Divisions ask it to do.

At one time IDRC had a Publications Committee but this appears to have been defunct for several years.

7.28 Another linkage mechanism is the Advisory Committee. Most of these seem to have functioned well and to be regarded positively by both program staff and recipients. It appears that it would be beneficial to use such committees more widely in IDRC networks.

E. Management and Monitoring

7.29 We have already commented on the range of coordination strategies pursued by the Centre. To a large degree the monitoring role of program officers has been adapted to fit in with the particular coordination mechanism used. Some program staff with a keen personal interest in a network topic have become heavily involved in coordination as well as monitoring (e.g. Population Distribution Policies, Waste Water and Cassava) in these instances there were very close working relationships between coordinator and program officer. In other cases conflicts have arisen between contracted coordinators and program staff and, given the term nature of the coordinators' contracts, this has sometimes led to an unsatisfactory impasse.

7.30 However, program officers are not always keen to be heavily involved in the technical side of networks (especially if this involves a network that they have 'inherited' and which is in a field where their own expertise is limited). In such cases monitoring seems to be largely an administrative activity. Indeed, given the Centre's philosophy and mandate,

some staff feel that the technical input into the network should be primarily the responsibility of the participating research teams and that inputs from the Centre's staff should be made available only when specifically requested. Here again individuality is paramount and where the staff member is a recognised authority in a field it appears that his voluntary inputs to the network are much welcomed by the participants who complain that, if anything, they do not get enough of them.

7.31 The extent to which IDRC becomes involved in the technical aspects of a network also relates to the degree of local competence that is available. Where a lot of local experience and expertise exists, the management role of IDRC is primarily to identify compatible groups and leadership elements so that the network process is largely, if not wholly, a localised or regionalised effort. In more difficult program areas a strong IDRC presence in monitoring is desirable and a formal coordination mechanism is usually necessary.

7.32 The administrative and financial monitoring of network projects presents some particular problems since the Centre has to abide by rules and regulations which grantees are often not very familiar with and in whose administration the program staff are not always very experienced. Many researchers have suggested that they have to deal with too many individual IDRC staff members; Program Officers, Associate Directors, Program Directors, Comptroller, Regional Controller and Regional

Director. As a result there is some degree of confusion in the minds of research teams participating in network projects. (This is true not only of network projects but for other projects supported by the Centre). However, the Centre's structure and the work load on staff members has not facilitated a full integration of technical, administrative and financial activities.

7.33 There is, in fact, a danger in trying to have a high degree of cohesiveness in the Centre's management of network projects in terms of integrating technical, administrative and financial activities. This could make the Centre less responsive and, more imposing.

7.34 Indeed some recipients already feel that, like so many other donor agencies, IDRC's main concern is that the reports are delivered on time and the books balance, rather than that the project's goals are achieved. Certainly it is not easy for a program officer to convince the Treasury or Administration in Ottawa that a project in a very backward country that submits short reports and unbalanced books six months behind schedule is a good project, even though the program officer is able to witness a progressive growth in personnel and research capacity.

7.35 In addition, given the different types of networks supported by the Centre's Divisions, the degree of cohesiveness in the management of these activities must necessarily vary. The TECHNONET type of network certainly calls for a higher degree of financial and administrative integration than

the Low Cost Housing network, but then TECHNONET also has a certain degree of permanence and a much higher annual cost.

7.36 The answer to the question of cohesiveness probably lies in establishing a much stronger dialogue between the non-scientific personnel of the Centre and those of recipient agencies. If the Centre's goal is to increase research capacity it must recognise that indigenous researchers are going to be constrained unless their own logistic support units develop in parallel with them. That there is a role for IDRC to play in this respect can be seen from the impressive strides made in this respect in Asian projects through ASRO's Regional Controller spending much of his time visiting projects and directly assisting them in financial procedures. At the same time he is learning at first hand of the bureaucratic impediments faced by grantees, and the idiosyncracies of their domestic financial systems. IDRC still has much to learn in this respect. But a number of opportunities are available.

7.37 For example when having a network project identification meeting, the program officer concerned could brief participants on the Centre's internal procedures, administrative and financial requirements, including different persons to be contacted within the Centre. A Treasurer's office representative could also attend such meetings. In addition the Centre might consider devoting part of a network's project workshop time to discussions with the participating research teams about the Centre's internal rules and regulations.

7.38 For networks with a regional focus the key to the whole question of integrating management activities probably lies, at least in regions with Phase C Regional Offices, in maximising the delegation of management and monitoring roles to the Regional Office staff who can work as an interdivisional team and are able to visit projects more readily than can staff located further away.

F. Canadian Support

7.39 IDRC was created to assist developing countries to overcome the gap prevailing between them and developed nations in terms of scientific and technological research. The Centre's founders perceived this goal as being unattainable until the developing countries had built a professional base and an institutional infrastructure adequate for conducting research related to their own development aims To achieve this goal it is necessary for the developing countries to become fully capable of efficiency and autonomy in the conduct of scientific enquiry. This entails building up appropriate experience in decision making and management related to research, and the development of fully self-reliant development-oriented scientists.

7.40 IDRC has attempted to assist developing countries in achieving this goal without imposing upon them a large cadre of Canadian staff. Several of the networks studied had assistance from Canadian consultants but only in two of them, TECHNONET and Cassava, have funds been disbursed directly to Canadian institutions.

7.41 The study team feels that this low-key Canadian involvement is correct. It believes that the research needs and goals are best defined by the scientists in developing countries and that a strong presence of expatriates often overwhelms national researchers. It is of the opinion that expatriates working in research - oriented development projects are often counter-productive to the development of national researchers. Expatriate assignments are usually of relatively short duration providing insufficient time for adequate problem identification and creating pressures to produce publishable material irrespective of its relevance in terms of IDRC's objectives, as opposed to the career objectives of the expatriate. Furthermore the vast differentials in terms of service between local and expatriate scientists working side by side often creates personal problems.

7.42 The Team recommends that the past policy of restricting the Canadian component in network projects should be continued. It believes that this approach is the most appropriate one in terms of developing national expertise at both the institutional and the personnel level. The Team believes that there are certain circumstances, however, where an infusion of Canadian expertise is compatible with these national objectives. Examples of such situations are:-

(a) where specific expertise exists in Canada but not in the developing countries (both the Cassava and TECHNONET projects had inputs of this nature)

(b) where the professional and institutional resources of a country are so modest that appropriate scientific

research cannot satisfactorily be carried out without the use of some expatriate talent even though this entails a larger element of technical assistance than IDRC normally provides (by and large such an approach has not featured in the networks studied although the coordinators in the African Forestry, STPI and Public Sector Salaries projects who were expatriates, but not Canadians, did provide technical assistance to the weaker units in the networks).

(c) when there are clear advantages to the developing countries in subcontracting, to a Canadian institution, a component of the research which requires high technology to solve an immediate problem whose presence hinders the conduct of applied research in the developing countries themselves. (An example of this is that of using the NRC Prairie Regional Research Laboratory to establish the tissue culture technique for Cassava. Another is the microbiological work at Guelph University which identified the appropriate micro-organisms and techniques for single cell culture on Cassava).

7.43 With the exception of the technical assistance type of activity for the weakest of the developing country institutions, the above activities are essentially short-term contractual activities which service project networks. Allied activities which we have not specifically referred to here, involve the training program, where we believe that Canadian institutions

should continue to play a role, particularly in instances where their Faculty have first-hand experience of the problems which their trainees will face when they return home. However, we believe that the location to which trainees are sent should be related primarily to their specific needs and we would not recommend a deliberate policy of funding Canadian institutions specifically to provide training for network participants. By their very nature most networks cover novel fields of activity for which established training activities are seldom entirely suitable.

G. Dissemination of Results

7.44 The Team has the impression that IDRC has given more emphasis to the production of knowledge than it has to its dissemination and utilisation. This is clearly illustrated in the STPI and Population Distribution Policies networks whose original grants had no provision for disseminating the findings. In both cases it proved necessary to finance a second phase, which was essentially addressed to disseminating results. In both of these networks the inbalance was corrected by funding a follow-up project.

7.45 It is clearly important to disseminate research findings as an integral part of institution and personnel development. A good dissemination program assists local scientists to gain the recognition, stability and influence necessary to establish their peer positions. It can also convince decision-makers that there is a national capability to conduct research on national problems. Unless policy-makers are convinced of

this it is unlikely that they will provide appropriate support to maintain strong national institutions.

7.46 The Team feels that there is a need for a much stronger coordination within IDRC with regard to integrating its activities in supporting both research and its dissemination. Such action requires planning a dissemination strategy at the time when the research itself is planned. Clearly all of the diffusion needs of a project cannot be anticipated and precisely planned before the research has been undertaken. To overcome this problem the monitoring of project implementation needs to take a flexible and dynamic approach towards dissemination considerations. As the research work is phased down dissemination should become a paramount concern of IDRC.

7.47 At the present time dissemination tends to be extremely 'ad hoc'. In the networks which we have examined, a large and diverse number of documents have been produced. There is little formal mechanism for exercising adequate bibliographical control and information retrieval is difficult and expensive. In this respect there exist only weak linkages between the Program Divisions, the grantees and the Information Sciences Division. Often towards the termination of a project the Communications Division becomes involved and is asked to publish available documents, although theDivision is seldom involved early enough on in the project to have an influence on what documents are prepared.

7.48 Although IDRC is heavily involved in development research

many of its publications are not aimed at the clientele who make decisions on development policy or who may be responsible for ensuring support for network activities once IDRC's assistance has terminated. A great deal of the publications arising out of IDRC networks are fairly learned and are comprehensible to only limited audiences.

7.49 An example of this is seen in the PLAMIRH project whose output has been highly technical. It has not produced publications in a non-scientific language which might have persuaded decision-makers of the value of this type of work. This has resulted in difficulties in the continuity of financing which might have been avoided had the project had a published output destined for policy-makers as well as for peer scientists.

7.50 To overcome some of these problems in the future the Team recommends two policy changes. The first of these is that IDRC should conduct, contract and foster research on the mechanism and impact of disseminating the results of research projects. It believes that there is an important research field in this context which has, to date, been left largely unexplored. Activities in this field should be carried out by SS Division in close collaboration with the other Divisions who should be major clients for the findings of this type of research. It should particularly involve network projects because these already possess defined linkage mechanisms.

7.51 Another recommendation of the Team relates to the process of project formulation. We recommend that, after consultation with the grantee and with the Information Sciences and Communications Divisions, the officers responsible for preparing

project summaries should try to ensure that these provide answers to questions such as the following:

(a) what information will be communicated to whom and for what purpose as a result of the project's research;

(b) what will be the type of message which the project hopes to transmit to its identified clients;

(c) what will be the most appropriate channels of communication for each particular target group;

(d) who will be responsible for the dissemination activity, at what time will it commence, where will it be done and for what duration of time; and

(e) how much will this dissemination cost and to what extent will IDRC be expected to contribute towards it.

7.52 Where it does not seem practical to try to answer these questions at the project formulation stage, a note should be made of this and a positive attitude adopted by IDRC towards funding dissemination activities for projects which have appropriate findings to disseminate. These activities could include publications, audio-visuals and meetings for both researchers and policy makers.

H. Termination

7.53 When networks are initiated it is often unclear as to what will happen to the network when IDRC support terminates. This is not the case in all networks since a number, particularly in Social Sciences, are clearly designed to be one-off efforts. As already noted Information Sciences networks do, however, tend to relate to the establishment of a permanent

activity. To a lesser extent this is probably true in the case of AFNS networks, although in this case their close relationship with CGIAR centres may present fewer long term problems in terms of permanency. However, in the case of these networks and some others such as PLAMIRH, there is probably some expectation on IDRC's part that the research activity will generate enough interest amongst LDC researchers to enable them to continue the network without direct IDRC support.

7.54 In discussing the question of termination it is important to take into account that the main permanent feature of any network is probably the coordination mechanism. For this reason the choice of approach adopted towards network coordination is extremely important. Networks with high coordination costs are likely to face severe financial problems in ensuring continuity. A possible way to avoid this problem is, at least on a temporary basis, the development of multidonor support as in the Post Harvest project. However it is too soon to say whether this approach will prove effective without the existence of a strong coordination secretariat such as that possessed by the CGIAR.

7.55 The type of coordination mechanism practised in many IDRC networks has already been criticised on the grounds that hired coordinators are neither staff members nor members of grantee institutions. In terms of continuity this approach can also be strongly criticised in relation to its

cost. It would appear that more efforts need to be made towards attempting lower cost coordination mechanisms such as those of the Low Cost Housing, Population Policies and PLAMIRH projects. Alternatively, where a network presents an activity in which IDRC is likely to be involved for several years it is probably most appropriate that the coordination should be done by a staff member rather than a short term contract employee.

7.56 In the case of networks such as AGRINTER and TECHNONET, which were designed to have a degree of permanence, it would appear that there is a need for very careful planning before the network gets underway. If it is envisaged that other donors will participate in the network and, perhaps, take it over they should be involved in the discussions and financing from the onset of the network. If the Centre is to be the only funding agency, detailed planning on the phasing out of its support should be made known to the recipients before the project starts. If there is a need for long-term outside funding the recipients should be encouraged to continuously explore the possibilities of obtaining financial support from other donor agencies.

7.57 At the present it does not appear to be IDRC policy to provide permanent support for network activities. In such circumstances there may well be a case for establishing a dialogue with appropriate international organisations or agencies before a <u>permanent</u> type network is established. This was done in the case of AGRINTER and there may be

scope for a similar approach elsewhere, for example Primary Health Care projects might be linkedto the proposed Consultative Group on Health Research or enteric projects in children to the International Centre for Diarrhoeal Disease Research in Bangladesh. It is important to stress that these comments apply only to networks destined to be permanent because we have already argued against the use of international agencies to coordinate temporary networks.

7.58 There may also be a case for IDRC to look more closely at existing networks supported by other international agencies to see whether IDRC's somewhat unique style of operation could help to strengthen ongoing network activities rather than stressing the creation of new networks. There are already in existence a number of non IDRC networks which do not function very effectively. The OVPP Africa report draws attention to this point and suggests that in that Continent IDRC might give support to some existing networks but should not encourage the development of more at this time. This appears to be an important point. Many Centre staff outside of IS have tended to shy away from involvement with the ongoing activities of international organisations on the grounds that these already receive Canadian support through CIDAs multilateral activities.

7.59 The study team feels that this attitude needs re-examination and that now that IDRC has clearly established its own identity it should, in terms of cost-effectiveness, give equal consideration to providing inputs to ongoing networks sponsored by

other organisations as well as to developing its own new networks. This argument is particularly relevant in terms of supporting networks that are likely to have a degree of permanence.

7.60 In addition to IDRC providing inputs to the networks of other agencies the reverse situation also warrants mention. If the research supported by the Centre is to lead to development then there is a need to bring it to the knowledge of agencies that provide development grants and loans. Indeed there are also opportunities for stimulating other agencies to pick up part of the research activities so that their development funding relates to research funded by themselves as well as by agencies such as IDRC. This strategy has been employed very effectively in the Cassava network which has inputs from Canadian, Belgium, Dutch, German, British and U.S. bilateral aid programs and from the World Bank, FAO and Regional Development Banks. This type of approach has not been widely employed by IDRC, it is open to criticisms of being non-responsive and of 'selling' projects to recipient governments. However, as already discussed (para. 7.10) such an approach may be useful in tnose areas where local expertise in defining research priorities is limited and it is one which the Centre may wish to explore more fully.

7.61 In a number of networks a major objective may be to have research institutions in less developed countries benefit from the expertise of those that are more developed. In

such cases the degree of permanency is of less importance since the learning process can normally take place during the three to five year life-span of a network project. Thus, in one report from a Social Sciences Division staff member it is stated -

'It is not possible for the Centre to support perspective recipients unless they have some research potential and this tends to be weakest in the least developed countries and in provincial institutions. Whilst every effort should be made to assist these, much would be lost if the Centre did not also strive to develop quality research contributing to the advancement of the art of research and development. The scholars most capable of bringing this about, however, are usually found in more developed countries and in metropolitan institutions. The strategy out of this impasse, it seems to me, is to strike a proper balance between the research output and training aid orientations of our grants on the one hand and attempts to achieve the objectives of making the less developed countries and institutions benefit from the expertise of those that are more developed. This is already achieved to a certain extent by the Centre's style of networking but I feel, that this objective could be pursued more deliberately and methodically'.

7.62 The above quotation whilst being of relevance to short-term networks also relates back to our earlier discussions on helping the least developed. We have suggested that one reason for the limited extent to which this type of network approach has been adopted relates to administrative issues in respect to the least developed countries.

7.63 The Team believes that the experience to date regarding network termination offers some valuable guidelines for the future. It recommends that in any document relating to a network project it should be clearly stated what degree of permanence the network is expected to have. This should be pointed out clearly in project summaries.

7.64 The Team recommends that in the case of networks which are not designed to be of a permanent nature, the project summary should clearly indicate what is the main objective of the network. It should specify whether it is designed to encourage researchers to undertake work in a particular field and whether the approach entails either horizontal or vertical integration. Reference should also be made as to whether or not there is an element of peer assistance with stronger teams helping weaker ones in the network. Such information should also be taken into account when the network is evaluated.

7.65 We recommend that in the case of networks that are designed to have some degree of permanence, the project summary should clearly indicate how many years the Centre is expected to support the network. We believe that it is desirable that IDRC support should be phased out during the second or third phase of a network rather than ceasing abruptly at any one point in time. The documentation regarding phasing out should give a firm indication as to the mechanism of support for continuation, i.e. whether this will come from other donors or be self-financing.

7.66 Consideration might also be given to allowing the coordination centre, in networks of a permanent nature, to gradually accumulate a small portion of the budget in order to enable it to build up a reserve to overcome funding problems at the phasing out stage.